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HISTORY
OF THE
BERWICKSHIRE
NATURALISTS' CLUB.

INSTITUTED SEPTEMBER 22, 1831.

"MARE ET TELLUS, ET, QUOD TEGIT OMNIA, CÆLUM."

VOL. XVII.—1899-1900.



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History of the Berwickshire Naturalists' Club.

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NOTE.

This volume of the Club's History should not appear without some brief note expressing a sense of the great loss which the Club has so recently suffered by the untimely death of Colonel David Milne Home. As Organising Secretary of the Club for the last two years, and as its former President, he had, by his high character and his clear intellect, won the sincere attachment of its Members, and of his Colleagues in the conduct of its work ; and at future Naturalists' excursions the absence of his cheery energy and kindly disposition will, by the wide circle who enjoyed his friendship, be felt keenly as a personal loss.

In the next volume, which will record the work of the Club during this present year, 1901, space will be devoted to a short Memoir of him.

December 1901.





INTRODUCTORY NOTE.

WHEN the lamented death of our late Secretary, Mr Gunn, rendered it imperative that the editing of the current number of the Proceedings should be undertaken by somebody, and that at once, if the good results of all his energy in bringing our publications once more up to date were to be preserved to his successor, it was only with the greatest reluctance, owing to lack of leisure time, that I consented to take up the work, and now that it has been accomplished I feel that the indulgence of members must be craved for many deficiencies and shortcomings.

I have done my best under adverse circumstances, but the work, though a labour of love, has been considerable, and could scarcely have been overtaken but for the ready help extended to me upon all sides. The thanks of the Club for assistance thus rendered are especially due to our late President (Mr Smail), Mr John Ferguson, Mr J. C. Hodgson, and Captain Norman, and to these gentlemen, as well as to all who have helped me with papers, I would here desire to tender my best acknowledgments.

GEORGE BOLAM.

Berwick-on-Tweed,
October 1900.

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PROCEEDINGS
OF THE
BERWICKSHIRE NATURALISTS' CLUB.

*Address delivered to the Berwickshire Naturalists' Club
at Berwick, 12th October 1899. By JAMES SMAIL,
F.S.A. (Scot.), Edinburgh.*

LADIES AND GENTLEMEN,

I begin my address by first saying that my thanks are due, and I give them sincerely, for the honour done me by the Club in electing me President for the year. I have been a member for 33 years; but for many years before my admission I had been conversant with the Club's movements, and had enthusiastically perused its printed Proceedings, lent me, as they appeared from time to time, by one of its oldest members. From circumstances somewhat beyond my control, I was, to my regret, unfortunately unable to attend the Club's meetings for about twenty years; but two years ago I wrote to my dear old friend, the late Dr Hardy, telling him that "the joy of freedom" had dawned on me, and that I would gladly renew my old love, and roam again over the Club's happy hunting grounds with my fellow

members. To this I received from him a kind and hearty reply. From what I have said, I trust you will readily understand how gratified I felt when, a year afterwards, you made me President.

I also beg to express my gratification for the kindness shown me by members at all the meetings of the year, and I wish to record my thanks to the Rev. Mr Gunn, the Club's Secretary, and to Mr Bolam, our Treasurer, for the kind and ever-ready aid they have given me in all matters pertaining to the Club.

At this stage of our meeting it is my duty to bring to your remembrance the loss the Club has sustained during the year from the death of some of the members. Those members each took a warm interest in the Club, and all, or nearly all of them, had on several (some of them on many) occasions joyously roamed with us on our pleasant journeys in field and forest, and had, besides, been often helpful in various matters connected with our pursuits. I am certain that we, one and all, deeply deplore their departure, and that a number of us shall long hold them in tender, as well as pleasing, remembrance. As I understand that a separate notice of most of those deceased members will appear in the Proceedings of the year, I shall now give only their names. These are:—

His Grace the Duke of Northumberland, Alnwick Castle, who became a member of the Club in 1868.

Mr Robert G. Bolam, Berwick, who joined in the same year.

Lord Napier and Ettrick, who joined in 1881.

Mr Richard H. Dunn, Earlston, who joined in 1886.

Surgeon-Major-General S. A. Lithgow, Edinburgh, who joined in 1894.

After these remarks I may now, I think, say a few words regarding the study of Natural History. To a large portion of the human race it brings its own

reward. It yields, as you well know, much intellectual, as well as pleasing physical enjoyment. Members of the Club are fully conscious of the pleasure and profit they derive from its study, and are also conscious of the kindly intercourse and warm friendships that have been engendered at the field and social meetings of the Club. However much we may individually differ on many of the themes and problems of life, here we are at one, with a strong love for all that pertains to the natural history of our own lovely district of country.

To people of kindred tastes throughout the land—let me say throughout the universe—the study of natural history never fails to yield such pleasure and gratification as I refer to, hence the establishment of such Clubs as this.

To know botany, ornithology, or entomology scientifically, indicates culture of a high order; and to proficient in the study of these subjects the world is much indebted, both for delightful reading and for the correctness of the information which they lay before it. We can imagine the “glory and the joy,” the wordless pleasure, experienced from time to time by skilled observers and writers when pursuing their work connected with any of the subjects named, either out-of-doors or in the study. Then, along with fully knowing the scientific elements of their respective studies, and finding pleasure therein, they enjoy in a more elevated degree what may be called the higher parts of their researches, the spirit and the beauty of whatever they carefully observe and study, and this even apart from the scientific element. It is pleasant, too, to know that a very large portion of the world’s inhabitants, possessing little or no scientific knowledge of natural history subjects, but loving the old earth on which they live, thoroughly enjoy many of the higher elements of beauty, the food for thought, which a little study of such subjects naturally reveals to them.

There are books and books innumerable, many of them finely illustrated and costly, on the three divisions of natural history I have named, but many of these are written by mere compilers, clever bookmakers. Such books as the latter lovers of natural history generally avoid, for they quickly detect the want of practical natural history experience and keen observing power that all writers on such subjects should possess before venturing to publish what they write. But, on the other hand, we have a host of splendid authors, many of them possessing genius, who charm us with their books on these subjects; authors who carefully and industriously observe for themselves, who glory in their work, and delight the world with it. Such authors as Macgillivray, Gilbert White, Knap, and Alexander Wilson, are fair and good examples of an almost countless number of careful observers and writers on natural history. The reading world may well be, and is proud of them. The enjoyment and the knowledge imparted by these, and such writers as these, to millions of our race, no one can estimate. Many of them, however, have both our gratitude and love. But though many a member of this Club, and of other similar societies, knows that in the appreciative perusal of the writings of the most correct, enthusiastic, and almost exhaustive observers, great though the charm be, a really more satisfactory enjoyment comes to him when in field or forest he, from patient and careful observation, personally learns something definite of the many deeply interesting ways and movements of birds, insects, and plants.

But as lovers of nature we by no means confine ourselves to the study only of such subjects as I have named. When afield, we seldom fail to note and admire the beauty and grandeur of the scenery around and above us, the fine revelations of earth and sky. There is, for instance, an unspeakable charm for us in our fine grass-green Border hills, either when sun-bright or in

soft dreamy shade, and in our many rich romantic valleys and fine rivers. A notable spell of almost absolute stillness, too, at times seems to hang and linger over our hills and valleys. This to some produces a touch of sadness, and to others a sort of romantic delight. No one felt the impressive power of that stillness in its pensive form more than Wordsworth, as expressed by him in his *Yarrow*.

Now, let me say in a word: we delight in the work of the Club, and in the beauty and the glory of all we see and feel in our pleasant wanderings over hill and dale.

“Man cannot stand beneath a loftier dome
Than this cerulean canopy of light,
The Eternal's vast immeasurable home,
Lovely by day and wonderful by night,
Than this enamelled floor so greenly bright
A richer pavement man hath never trod ;
You cannot gaze upon a lovelier sight
Than fleeting cloud, fresh wave, and fruitless sod,
Leaves of that boundless book writ by the hand of
God.”

A number of my worthy predecessors in office have, in their respective addresses at the annual meetings of the Club, given a *resume* of the work done at the field meetings of the year; but this, with your leave, I shall dispense with on the present occasion. I do so because you will, as you are aware, get detailed accounts of these meetings when the Proceedings for the year are issued. I may mention, however, that all the meetings of the year were well attended, and were successful, and that we had the good fortune to have bright sunny weather at every meeting.

I shall now address you shortly on some of the changes in the distribution of some of our district birds

during the last sixty years, saying also something of the ways of some of the birds. During that time some of the birds that were fairly numerous in the earlier years of the period named are now very scarce, the goldfinch having, for instance, disappeared, or all but disappeared. On the other hand, some of the bird classes that were thinly populated sixty years ago, are now in several cases numerously represented, the starling being excessively so.

THE RAVEN.—I may begin with the raven. In Hen-hole, on the Cheviots, long ago, two pairs of ravens regularly nested, but for a number of years only one pair have nested there. The only other place I know of on the Scotch side of the Borders where ravens still breed, is a high cliff in Dumfriesshire. It would indeed be matter of regret to us all were these beautiful and noble birds driven from their Border haunts. They are most sagacious birds; they are easily tamed, and can be trained to speak a few words, and to cleverly imitate a trumpet call. I have heard a Border raven do all this with accuracy, and this it did apparently with an exultant relish. But though the raven readily displays this light side of his nature, he is in reality a solemn, though both a brave and bold bird, and no home bird can match him in dignity of mien. In fight, his only masters in this country are of the eagle tribe. I saw in Kelso, two years ago, a young raven of almost full growth put into an aviary beside two fine peregrine falcons. I wondered what the result would be, and immediately saw it. The hawks were sitting on the highest perch, and they silently stared, their wild expressive eyes glittering, when they beheld the raven placed on the floor of the aviary; but they no sooner saw him begin (which he did at once) to hop upward, perch after perch, than they screamed and *keelie-keelied* at a great rate. When he reached their side, with a

fierce croak, he dashed the side of his head and powerful beak against the hawks, and sent them tumbling to the ground, where for a short time they sat in utter dismay. They were unhurt, however, as the raven had neither bitten nor tried to bite them. They shortly after ascended a few perches, and stood side by side, glancing upward at their new companion, but he took no heed of them. He had made himself master of the abode; and when I heard about him some time ago, it was to tell me he was still master, and that he and his two neighbours were getting along without quarrelling, but without any hobnobbing.

THE CARRION CROW.—Carrion crows, or blacknebs, are scarcely so numerous as they were from twenty to thirty years ago on the Cheviots, so that sport for the gunner has somewhat improved of late. More than any hunting bird this crow preys on the eggs of grouse, red and black. He is besides, during summer and autumn, ever on the look-out on the moors and hills for “cheepers” and weakly birds, on which he also preys. He eats much more fresh meat than carrion. The male and female always hunt together, unless when accompanied for a month or two by their young. I have seen as many as five pairs hunting at a time, each pair far apart from the other pairs. This was on Peelfell. Once, when at lunch there, a friend said he thought the crows we thus saw flying and sailing overhead were rooks. I thereupon ventured a long shot, and was so fortunate as to bring down one, which, as I expected, proved to be a carrion crow.

ROOKS.—Notwithstanding an almost incessant war and outcry of late years against rooks, for their depredations on the farm lands, and on eggs and young of game birds and farmyard fowls, they do not seem to diminish in number. Every one who knows of the very large number of rookeries in the Club’s district must be aware that rooks abound in far too large numbers all over it

for either the good of the farmer or the sportsman; whereas if they were in moderate numbers, as they were fifty to sixty years ago, they would benefit all concerned. The numerous grubs, wire-worms, and other land pests which they pick up and devour are simply incalculable, and the vast amount of benefit they, by this, yield to the husbandman it is impossible to estimate. These grubs, etc., are their natural food, and, if found in abundance, rooks would partake but sparingly of any other kind of food. As matters stand, however, on account of their excessive numbers, it may be asked, what is it that rooks will not eat. They are certainly omnivorous, and have been so for many years, though sixty years ago they were not. That was when they and the quantity of their natural food were, in a sense, proportionate. It would go far, in my opinion, to establish an equilibrium as regards rooks and a fair supply of their natural food, were large rookeries much reduced in size, and many rookeries, where they are numerous, altogether destroyed. This done, I have no doubt rooks would soon regain the esteem of those who at present suffer from their depredations; for moderate in numbers, the birds would find abundance of the food they naturally prefer, and would benefit the husbandman, as I have said.

Apart from his eating and thieving proclivities, the rook is a delightful bird. I have carefully watched him and his "ways that are strange" for very many years, and I do not hesitate to say that he is the most observing and wisest bird in our island. For wisdom, and pluck, and trick, the jackdaw and magpie have no chance with him, taking them either in their wild or tame state. I have long been conversant with them all in both states, having for years had tame rooks (one of them could almost speak to me) and jackdaws, with an occasional magpie, and many other wild birds. They were placed in houses and aviaries, and some had the

freedom of running or flying at large in the garden. Many of you have watched with pleasing interest the ways of birds when tending their young. Their never-ceasing and ever-active care is simply delightful to witness; and, connected with this, in many instances we ourselves might take lessons from these haunters of our woods and fields. For instance, it is a treat to watch an old wary mother-rook learning her young to fly, and brings to one's mind a mother teaching her child to walk. The young rooks are taught to fly one by one. The old bird sits on a twig or branch very close to the nest, and, of course, in full view of the young one about to make its first essay in airy flight. When the old bird is so placed, she utters a low sound and hops on to another near branch, looking and moving in an inviting way, which the young one quite understands. It then, after some hesitation, makes a shaky attempt to hop on to the nearest branch, about a foot from the nest. If successful, the old lady at once hops to it, and almost caresses it. This encourages and gives confidence to the learner. Then a further-out branch is attempted, the parent bird being near and ready to help, should a fall-off be imminent. This goes on from day to day, with an increase in length of hop or flight, until the whole nestful of young can do fairly well for themselves in the way of flying. A more difficult flight to learn, which is also taught by the parent birds, is to dive down through the air from a great height in a very strong wind and alight, each bird on its own rookery tree. It is a fine sight to see this operation, and it generally occurs when the birds return to their rookery after being long afield, and they descend with the velocity of a bolt from a bow. On an early morning in June, I had the pleasure of seeing some old rooks teaching their young to dive. This was on Blackford Hill, Edinburgh. The diving was done from a high altitude, and was carried down past the precipitous cliff

on the west side of the hill. This was repeated again and again. The old birds led the way, and the young being merely learners, and not so strong of wing as the adults, were occasionally blown far out of the course aimed at. Before each dive they always hovered a minute or two in the wind, high above the cliff. My seat was a short way from the edge of the cliff, but I sat very still, and the rooks paid no attention to my presence.

THE JACKDAW.—A somewhat wonderful change has taken place within the last fifty or sixty years as to the population and ways of the jackdaw family. I remember the time when almost the only nesting places of these birds were ruinous abbeys and towers, and precipitous cliffs overhanging rivers and disused quarries. Now they nest in vast numbers in all the accessible crannies and nooks in the heart of the busiest manufacturing and other towns in Roxburghshire and Selkirkshire, and are a plague to householders because of their nesting and their never-ceasing to attempt to nest in their house chimneys. They, by hard and persevering work, often dislodge wires fixed on chimneys to prevent their nesting. They also now nest pretty freely in the same woods with rooks, and build open nests like these birds. These nests are more compactly built than rook nests, and the densest trees of the rookery are always selected for sites. The immense increase of late years in their numbers, and the decrease perhaps in the number of their old holdings, have no doubt driven the daws into fresh fields and pastures new as regards habitation. Now, too, they fly afield with rooks more numerous and more frequently than they did of old; and when so flying, it is interesting to note that their flight is always in the most airy ranks above the rooks. After nightfall, at the time when rooks and jackdaws have young ones in their

nests, the male birds at such a time almost always sit outside the nests. In connection with this, I have noticed in moonlit nights, in Galashiels, that the out-sitting jackdaws did not take up their abode for the night on the buildings where their mates were at rest on their nests, but perched instead in the neighbouring rookery beside the male crows. One could see, too, against the moonlit sky that the daws were always perched higher than the rooks. When a rookery is invaded or disturbed during the night, every rook, without fail, either sits still or flies off in dead silence. Jackdaws act otherwise; for should they get disturbed (and a mere trifle disturbs them) in the rookeries where they take shelter for the night, they set up a tremendous cackling and chattering, both on their perches and when flying, no doubt to the annoyance of their silent and more dignified neighbours, the rooks.

WOOD PIGEONS.—Few birds are more widely dispersed than wood pigeons. They exist more or less over all Northern Europe and Asia. When winter sets in severely in the colder countries they migrate southwards in large numbers. About October and November they used to increase largely in Great Britain, leaving this country in the spring for the deep forests on the Continent. It is now believed, however, that few (if any) wood pigeons leave our islands for other countries; and, on the other hand, the increase that used to be so great some fifty to sixty years ago in October and November, is now scarcely perceptible in these months. The cause of one of the changes in the movements of these birds is easily understood. Within the period named there has been a large increase in this country in the woods in which they find shelter, and in the supply of food upon which they subsist, the latter caused by the large increase in the breadth of land laid down in crops on which they feed. The birds, from this, have

found for many years such abundance of food and shelter in these islands that they have made our country a permanent home. In face of this plentiful food supply, however, it seems somewhat strange that wood pigeons have all but ceased to leave Northern Europe for the comfortable winter and spring quarters of Great Britain. Perhaps they know that we always have a largely superabundant stock of their fellows! They are lovely, peaceable birds, and there is ever a charm in hearing them repeat their "wood notes wild" amid the stillness of the forest; but romance and sentiment are apt to fly off when we think of their insatiability as to food, and of their capacity for devouring such vast quantities of it. I have seen as many milk-green oat-pickles taken from the stomach of a wood pigeon, shot while feeding, as would have filled a moderate sized breakfast cup; and the bird, of course, had a feed similar to this several times a day. The country is doubtless very largely overstocked with wood pigeons. They do great damage to our crops, both from what they eat and what they destroy. Any good they do is infinitesimal, the mere picking up of a few caterpillars.

THE MISSEL THRUSH, during these years, has maintained its numbers pretty equally. It is a very bold bird, as you know. Some years ago, I came on one sitting on eggs, when I quietly put my walking stick before it. In place of flying off, it kept its nest, and struck the stick several times with its beak. It showed no sign of fear.

THE BLACKBIRD has also maintained its numbers, perhaps increased, of recent years. I have observed a difference in the notes of the blackbird in different districts, or rather, I should say, in the articulation of the notes. For instance, there is a difference (not much, however) in the articulation of the song of the blackbird

in the neighbourhood of Edinburgh, compared with its song in Roxburghshire.

THE SONG THRUSH.—During the years referred to there has been only one very decided change in the numbers of the song thrush, and that was some seventeen years ago, when a long and very severe frost either drove away or killed nearly the whole of the song thrushes of the Borders. For a year or two afterwards very few of these birds were seen, and their spring and early summer songs were sadly missed by all lovers of their notes. They gradually increased, however, and for a few years there has been a full complement of these songsters.

WATER OUZEL.—The lively water ouzel, or dipper (the Scotch water crow) has maintained its numbers during all these years. It is a familiar sight to all who wander by the trout streams of the Borders, and in every river or burn frequented by it the angler will find trout; this because the food on which the dipper lives is exactly of the same description as that on which trout feed, and trout streams are plentifully stocked with such food all the year round. Worms similar to earth-worms are bred and live in vast numbers in the shallower parts of the rivers and brooks, and these yield much food for both trout and ouzels. Then the number of caddis-worms, creepers, and larvæ in the streams of rivers, and even of small burns, is simply immense, so that there is ample food for all concerned.

Some writers blame the dipper for eating largely of the spawn of salmon and river trout. I have no doubt it now and again picks up such food, just as river trout themselves do, but I feel certain that its chief food consists of what I have just enumerated. I have seen much of the bird and its ways in my very frequent angling expeditions, lasting over a long course of years,

and I never once saw it on a spawn bed. This at least goes to show that its *penchant* for ova is not strikingly noticeable. This bird is a true winter songster, and it is very pleasant to hear it singing in mid-winter, perched, as it often is, on an ice-covered stone. It sings most at dawn and in the gloaming, and its little voicings are so low that you must listen in order to hear them.

STARLINGS.—Sixty years ago, in Roxburghshire, almost the only starlings to be seen were caged birds. A wild starling was a comparative rarity. For many years after these birds had become fairly numerous, they were somewhat migratory, and were ever on the move, as seasons changed. Now, though large numbers migrate, we have always a large number fairly settled with us. In the latter part of the year, in some seasons, these birds visit some localities almost in swarms. A few years ago, a friend, Mr George Riddell, asked me to visit him at his residence in East Lothian, with a view to my seeing a novel flight of starlings. This was late in autumn, and the house, with large shrubberies and gardens, stands about half a mile from the sea, and close to the sea there is a long Scots fir plantation, to which the starlings referred to flew every evening for several weeks for rest and shelter. A little before nightfall we placed ourselves in front of the house, and faced in the direction of the Lammermuirs, whence my friend had told me the flight of birds came. They soon began to appear, flying at a great height, and as the numbers increased they formed a really wonderful sight. As far as the eyes could reach, mile on mile, the flying birds somewhat darkened the sky, they were so close and numerous, and as to numbers they were far beyond any person's power to compute, or even to guess at. The flight continued till nightfall, and all the birds harboured in the fir plantation referred to. A few days

later an alteration in the weather, bearing very cold, stormy wind from the sea, forced the birds to leave their seaside firs and take up more sheltered quarters. This they did by simply invading my friend's shrubs and bushes all around his house. This lasted for a few nights, until, in self defence, he had to drive off the birds, which was done by firing blank cartridges near the shrubs. The shrubs were receiving injury from the absolute load of birds they had to bear, and the air in and around the shrubbery had become less or more tainted, hence the necessity of having the birds driven off. The cause of the great increase in the number of starlings of recent years has been guessed at by some ornithologists, but that cause, it appears to me, takes the nature as yet of an unsolved problem.

LARKS AND STARLINGS.—It has been, and still is, a matter of common talk with a considerable number of observers of a kind, that the starling has for years so encroached on the natural grounds of the lark that the latter has of necessity had to desert its old haunts and take to other habitations, or perish. This, however, seems to be a statement only, for, so far as I at least am aware, no authentic information has been produced proving the accuracy of such a statement. No doubt, since starlings have become so numerous in many districts, larks have fallen sadly off in number in some of these districts; but, as I have just said, we cannot prove that the decrease in their number has been caused by the presence or movements of the starlings, usurpers though they may seem to some people. Judging from my own observation, I may state that I do not think that the present scarcity of larks in districts where they used to be numerous has by any means been caused altogether by the presence, however numerous, of starlings in these districts.

Great changes in the movements and habitation of

many different kinds of birds have, time out of mind, occurred again and again in our country—I may say throughout the world—and the cause of such changes, in nearly all cases, has generally proved a mystery even to naturalists of the highest order. In keeping with this statement, let me instance the plague of voles some years ago in the Borders. How they, in a sense, almost suddenly swarmed over the land for a time, and afterwards as suddenly disappeared, must ever remain a mystery. Starlings do not nest where larks nest; and though the lark's food is readily partaken of by the starling, we know that the latter will as readily eat the food of almost any other bird, for the starling, unlike the lark, is about next door to omniverous. No bird can pick a bone more quickly clean than a starling. Besides, there is sufficient food for all the bird family, and a scarcity of that article could not possibly be the cause of the lark's desertion of its native haunts. Then, though the starling is a lively and plucky bird, he is in reality amiable and peaceable. I have often watched small flocks of starlings feeding along with blackbirds, thrushes, finches, and sparrows, and I have never observed any particular tendency to combativeness in these cases on the part of the starlings. A robin or a house sparrow is much more pugnacious than the starling. As to the distribution of the lark, it is not so scarce as is generally believed by many of those who do not observe closely for themselves, and it is more numerous now in our district than it was a few years ago. Let us trust that this favourite bird will go on increasing in number. I may mention that Fifeshire, a county I lived in for years, and with which I am familiar, is a very stronghold of larks. It is stocked to perfection. When walking on the High Street of that busy town Kirkealdy, I have on many occasions heard larks singing overhead. The lark is gregarious in the late autumn, as you are aware. At that time they assemble in great flocks, and

range along the rich lands facing the sea in that county. I have often been charmed with the sight of thousands of larks so assembled. They seem more tame at the season to which I refer than in summer, and you may approach them closely without disturbing them.

BULLFINCHES have increased in number in my time. They now frequent the old woods in Upper Berwickshire, where fifty years ago they were all but unknown. I have often found their nests in the bosky policies of Springwood Park, and there is a fair sprinkling of them on Jed Water.

THE BLACKCAP WARBLER I have only once seen on Jed Water, nearly fifty years ago. I was led to it by its fine singing; and some thirty-eight years ago I saw several blackcap warblers, and heard them singing at Springwood Park. It is a very rare bird in Roxburghshire.

THE GOLDFINCH.—Long ago, I now and then came across goldfinches in Roxburghshire, and I have seen their nests often. They now seem extinct in that county. It was for long popularly believed that the birds had died out or forsaken the district, because of the scarcity of what was supposed to be their favourite food, the thistle, that emblematic plant having been so cleverly eradicated from the land by the fine and effective cultivation of the soil under a spell of high farming. Of course, farmers laughed at the popular belief, knowing well that “the auld Scottish thistle” will show its bloomy heads in goodly numbers as long as the land contains any growing power.

The grey linnet seems scarcely so numerous as of old, but chaffinches, yellow hammers, and green linnets keep up in number, as do also the families of tits and wrens, with the exception perhaps of the long-tailed tit, which

now seems somewhat scarce. Warblers also maintain their footing. Redbreasts are as numerous as ever, but the field sparrow is more sparse than it was of old. But I should mention, by the way, that the gold-crested wren has done more than maintain its numbers, for it has increased considerably within the last fifty years. I have often found its nest, and in every instance this was found on the outer point of a spruce tree branch, some six or eight feet from the ground. The nest is placed on the under side of the branch, and is pretty well covered above by the foliage of the tree. It is a beautiful nest, and in windy weather both old and young birds must get a deal of tossing to and fro and up and down in it.

BROWN WREN.—A peculiarity of the brown wren, the kittie—"that little fowl with voice so big"—is its love of nest building. During the time the hen bird is sitting on eggs the male bird spends much of his time in building additional nests. These are built in the near neighbourhood of the first nest, and are fixed in the places where wrens generally build. The nests so built are all properly finished, but are never feathered inside, and consequently are never occupied for breeding. The boys in my time called them cock nests.

I shall conclude by now giving an example or two of word painting, connected with what some of the song birds say; but you will, I am afraid, find it difficult to hunt up many of the words in any dictionary. Some of the poets of the Elizabethan period tried in this way to convey in peculiar words what the nightingale musically poured forth, but without success, in my opinion.

The missel thrush insists in singing out to all concerned, "*trio trio trio, do do do, trio trio.*" One of the warbler family occasionally replies with "*twee twee*

twee." The yellow hammer never asks for more than "*a little bit o' bread and no cheese.*" The chaffinch "*fink fink's*" a deal, and often reminds his mate that she is "*a wee-wee, wee-wee drucken sooie.*"

The linnet speaks well out to his mate on the matter of food, and she is ever ready in response:—

He: *Beetle-run, beetle-run!*
 She: *Seek-it-oot! Seek-it-oot!*
 He: *Caterpillar! Caterpillar!*
 She: *Pick it up! Pick it up!*
 He: *Hairyooobit! Hairyooobit!*
 She: *To me w'it, to me w'it!*

Jenny Wren's song:—

*Merry merry, grab-a-cherry,
 Peck a hairy-fairy berry,
 Scurrie-urrie-it.*

Thomas Pringle of Roxburghshire and South African fame, early in the century, wrote an amusing honey-bird song, too long to be read at present. I give you a verse or two of how the birds speak in South Africa:—

The Honey-bird sat on the yellow-wood tree,
 And aye he was singing *Cherr-cherr-a, cu-coo-la!*
 A-watching the hive of the blythe honey-bee,
Cherr-a-cherr, Cherr-a-Cherr, cherr-a, cu-coo-la.
 The bees they flew in, and the bees they flew out,
Boom-a-boo, foom-a-boo, boom-a-buzz-zoola!
 And they seemed to buzz round with a jerk and a flout,
Boom-a-boo, foom-a-boo, boom-boom-a-foo-la.
 Ha! ha! cried the woodpecker, here's a strong plea,
Tic-a-tac, tic-a-tac, chop-at-a-hoola!
 I now see the justice of robbing the bee,
Tic-a-tac, tic-a-tac, snap-at-a-snoola.

Lastly, I repeat to you Allingham's verses, "The Lover and the Birds":—

Screamed Chaffinch, "Sweet, sweet, sweet !

Meet me here, meet me here !"

Chaffinch be dumb, in case thy darling prove no better
than a cheat.

The man forlorn hears earth send up a foolish noise aloft.

"And what'll *he* do ? what'll *he* do !" scoffed the blackbird.

Worse, mocked the thrush, "*Die die !*

"Could he *do* it ? could he *do* it ? Nay !

"Be *quick !* be *quick !* Here, here, here.

"Take heed ! take heed ! Why ? why ? why ?—Why ? why ?

"See-ee-now ! see-ee-now ! Back ! back ! back ! R-r-r-run
away !"

(The Lark.) "Air, air ! Blue air and white !

Whither I flee, whither, O whither, O whither I flee !

Hills many waters glittering bright,

Whither I see, whither I see ! deeper, deeper, deeper,

Whither I see, see—see."

It is now my pleasant, but last, duty to nominate my successor, and this I now do by nominating, as President for the next year, Mr A. H. Evans, Cambridge. He has been a member of the Club for twenty-four years, and his attainments in the paths of natural history are well marked.

*Reports of the Meetings of the Berwickshire Naturalists'
Club for 1899.*

BERWICK.—By the Secretary.

THE FIRST MEETING of the year 1899 was held in the Museum, on Wednesday, 26th April, in accordance with the resolution of the Annual Meeting of last year.

The following members were present:—Mr James Smail, F.S.A. (Scot.), President; Rev. George Gunn, Secretary; Mr George Bolam, Treasurer; Colonel Milne Home, Caldra; Captain Forbes, R.N., Messrs D. Herriot, R. Weddell, W. Weatherhead, W. Maddan, W. Wilson, Berwick; J. Ferguson, Joseph Wilson, D. Veitch, Duns; W. T. Hindmarsh, Alnwick; G. P. Hughes, Middleton Hall; J. A. Somervail, Broomdykes; G. G. and Mrs Butler, Ewart; Revs. David Paul, LL.D., Edinburgh; R. Charles Inglis, Berwick; and Hugh Fleming, Mordington.

The dates and places of meeting for the ensuing year were fixed as below:—

- 2.—Earlston, for Chapel, Carolside, etc., on Wednesday, 31st May.
- 3.—Berwick, for Farne Islands, on Thursday, 21st June.
- 4.—Selkirk, for Whitmuirbog and Riddell, on Wednesday, 19th July.
- 5.—Kelso, for Makerstoun, Ringley Hall, Plea Hill, and Littledean Tower, on Wednesday, 23rd August.
- 6.—Seaton Delaval, the Coast, and Tynemouth, on Thursday, 21st September.
- 7.—Berwick, Annual Meeting, on Thursday, 12th October.

The Secretary, Mr Hodgson, Mr Ferguson, and the Treasurer gave in reports of their examination of the papers and MSS. of the late Dr Hardy.

The mode of commemorating Dr Hardy was then considered. The Secretary intimated that a Memorial Notice for the Proceedings was being prepared, and, after some discussion, Colonel Milne Home moved "That the Club agree to erect in memory of the late Dr Hardy, our esteemed Secretary, a Window and Brass Tablet on the walls of Coldingham Priory Church, subject to the approval of Mrs Hardy and his other relatives." This was seconded by Mr Ferguson,

and unanimously agreed to, and the following Committee were elected to carry the matter out, viz.:—Colonel Milne Home, Dr Paul, Mr Butler, Mr Hindmarsh, Captain Forbes, The President, Secretary, and Treasurer. Colonel Milne Home, Convener.

It was further remitted to the Committee on Dr Hardy's MSS. to consider and report at the next meeting as to the advisability of publishing a Memorial Volume, and as to its probable size and cost.

The question of carrying on the work of the Club by Sections and Committees, as described by Mr Hindmarsh in his Address in 1895, was next considered; and after a statement had been made by Mr Hindmarsh, it was moved by Mr G. P. Hughes, and seconded by Rev. Dr Paul, "That a Committee be appointed to consider and bring up to the October meeting a detailed report in connection with the suggestions made." This motion was agreed to, and the following Committee were appointed:—Mr Hindmarsh, Dr Paul, Mr Maddan, Captain Norman, The President, Secretary, and Treasurer. Mr Hindmarsh, Convener.

It was further resolved to ask the Committee on Dr Hardy's MSS. to report on the Club's books, and the arrangements for their safe keeping.

The Rev. Thomas Marjoribanks, The Manse, Houndwood, proposed by Rev. Dr Leishman, and seconded by the Rev. J. F. Leishman, was nominated for membership.

A letter was read from Mrs Hardy, thanking the Club for their expression of sympathy, and also one from Mr Richard Howse, Secretary of the Natural History Society, Newcastle, conveying the sympathy and regrets of that Society on the great loss sustained by the Club by the death of Dr Hardy. A letter of thanks from Mr J. G. Goodchild, upon his election as a Corresponding Member of the Club, was also read.

Apologies for absence were intimated from Sir George Douglas, Bart., Springwood Park; Captain Norman, R.N., Berwick; C. B. Balfour, Newton Don; J. L. Campbell Swinton, Kimmerghame; and W. B. Boyd, Faldonside.

The members afterwards dined together at the King's Arms Hotel.

EARLSTON.—By the President.

THE SECOND MEETING was held at Earlston, on Wednesday, 31st May, and was largely attended, the following members and guests being amongst those present:—Mr James Smail, F.S.A. (Scot.), President; Rev. George Gunn, Secretary; Mr George Bolam, Treasurer; Colonel and Mrs Milne Home, Mr and the Misses Milne Home, Wedderburn; Mr Campbell Swinton, Kimmerghame; Rev. Dr Sprott, North Berwick; Dr Stevenson Macadam, Edinburgh; Dr Stuart, Chirnside; Mr W. B. Boyd, Faldonside; Mr J. Ferguson, F.S.A. (Scot.), Duns; Mr and Mrs Butler, Ewart Park; Ex-Provost Laidlaw, Jedburgh; Mr J. J. Vernon, F.S.A. (Scot.), Hawick; Mr Tom Scott, A.R.S.A., Earlston; Mr R. H. Dunn, Earlston; Bailie Hilson, Jedburgh; Mr Thomas Smail, Jedburgh; Mr W. B. Swan, Duns; Mr Joseph Wilson and Miss Wilson, Duns; Bailie Ford, Duns; Mr Elliot R. Smail, Edinburgh; Rev. Thomas Martin, Lauder; Rev. W. Workman, Stow; Rev. J. Burleigh, Ednam; Dr and Miss Shirra Gibb, Boon; Mr H. Leadbetter, Legerwood; Dr Stewart-Stirling, Edinburgh; Mr D. Veitch and Mr D. Veitch, jun., Duns; Mr James A. Somervail, Broomdykes; Mr B. Morton, Sunderland; Mr D. McB. Watson, Hawick; Mr George Henderson, Upper Keith; Mr Thomas Henderson, Bailieknowe; Dr Marr, Greenlaw; Mr G. Fortune, Duns; Mr Arthur Giles, Edinburgh; Mr Henry Paton, Edinburgh; Mr John Turnbull, Galashiels; Mr Thomas Greig, Wooden; Mr W. Mason, Jedburgh; Mr W. Leitch, Galashiels; Mr D. Leitch, Greenlaw; Mr A. G. Sinclair, Earlston; Herr Albe, Duns; and others.

The President, who, in his younger days, had been for some years resident in Earlston, as agent of the Commercial

Bank, and who is therefore widely familiar with the district, acted as cicerone during the day, being greatly aided in his arrangements by Mr R. H. Dunn and the Secretary.

The party drove in brakes from the Red Lion Hotel, by Morriston, to Corsbie Bog and Tower. They then visited the church of Legerwood and the Pickie Moss, the breeding place of Pickmaws (the local name of the Black-headed Gull) on Legerwood farm, and thence drove to Chapel-on-Leader and Carolside, and afterwards dined in the Red Lion Hotel, Earlston.

In the Proceedings of the Club, Earlston itself has been so often treated at considerable length that very little need here be said regarding its history. The following tradition, however, regarding Thomas the Rhymer, which, it is believed, has never before been printed, may be given.

On a small, partly wood-covered hill, immediately opposite the railway station, an Earl of March had his "hawk house," and the hill still bears the name of "Hawk Kame," and it would certainly prove an airy, dry, and healthy station for the abode of his lordship's falcons. The Hawk Kame is only some two hundred yards from Rhymer's Tower, the abode of the famous "True Thomas." The tradition bears that the Rhymer occasionally visited the Earl at the Kame, using a foot road that led from the one abode to the other; and that on this road, on a dark night, he was waylaid and murdered by some one who feared and hated him, and an idea prevailed that he was cunningly buried where he fell. I should mention, in connection with this, that in the earlier half of the present century a sword of the period of Thomas the Rhymer was turned up in close neighbourhood to where the foot road ran. The late worthy Thomas Gray of Earlston, a keen antiquarian, acquired this sword, and his idea was that it had belonged to the Rhymer. The sword is now possessed by a well-known country gentleman, for whom I purchased it, who claims to be of the family of the poet, and who bears his family name, Thomas Learmouth.

Early in the century badgers were very numerous in the district. The Brock Hill is in the neighbourhood, and there the lovers of badger drawing used to get supplies for their

sport, so called. Some years ago a residenter of Earlston, whom I knew, met a badger quietly trotting along the street one early morning. When it saw him it ran into a drain under the Red Lion Hotel, from which I saw it captured. When shooting at Legerwood and at West Morriston, I have on several occasions seen badgers. In most districts, however, they are now very scarce.

"The Broom o' the Cowdenknowes" is one of our very oldest songs; but so far as regards the broom itself and its local habitation, the glory is departed. There is comparatively but little broom now on or about Cowdenknowes. I think I saw about the last remnants of what might have been called the ancient broom of Cowdenknowes. This was in 1858, and it was then drooping and dying. Some six or eight bushes were still in existence. Their noble stems, some of them nearly twenty feet in length, with thickness in proportion, were stretched along the ground and half covered with mosses and grass, while here and there a green branch or twig showed that some little life still lingered. These remains were in a fir plantation on the Black Hill, facing Cowdenknowes Mansion House. The late Miss Whale, of gingham celebrity, told me that on the White Hill, facing Earlston, on the Cowdenknowes estate, the broom about the end of last century was famous for its growth and strength, so much so that a man on horseback could ride unseen along a path that led through it. Broom, however, does not attain a very old age. The very severe frost of 1861 killed all the broom in Lower Lauderdale. Until it again grew from the roots, the Broomy Brae on the road to Carolside was quite bare.

It was in the red sandstone quarry on the Black Hill, above mentioned, that the geologists of the Club, in 1866, found excellent specimens of the *Holoptychius nobilissimus*. This was really an interesting discovery, and settled for all time what had hitherto been unknown, namely, that the Black Hill is of the old red sandstone formation.

When Corsbie Tower and Moss were reached, the Secretary read the short historical notices of the Tower and of the Cranston family, which were contributed by Dr Hardy to the Club's Proceedings for 1880.

The Tower is still an interesting fragment of a Border Peel, and now consists of two walls and indications of a third, while the fourth has been entirely obliterated. It stands on a knoll among ash trees, surrounded on all sides by Corsbie Bog. Before the bog was drained the knoll would be practically an island, and inaccessible except by a narrow paved way on the north side. The President briefly described some of the salient features of the ruin, and Mr Gunn then proceeded to read a ballad entitled "The Grey Peel," "which," he said, "so well reproduces the characteristics of ancient Border poetry that it is mistaken by many for a genuine old ballad. Additional interest is attached to it from the fact that it is the production of the President of the Club (Mr Smail), who has enriched Border minstrelsy by various poetical contributions of high merit." The ballad is as follows:—

"Auld Wat o' the Grey Peel's dochter May,
Perfection's maiden in form and mien,
Wi' face as bricht as a summer day,
I' the Grey Peel Glen nae mair is seen.

There's naething but grief within the wa's,
Thereout there's dool 'mong women and men,
And ruefu's the strain o' the wind that blows
Through the shiverin' leaves i' the Grey Peel Glen.

Wi' frolicksome step i' the morning bright
She brent her way to the Merlindean;
Where voices wail i' the darksome night,
Or wildlly laugh i' the moonlight sheen.

But the eerie glen i' the light o' day
Revealed but charms to her laughin' een;
And the sunbright morn that wiled her away
Brought a dreary night, for nae mair she's seen.

Right ready o' help frae the Smailcleugh fit,
Stern Ringan has flown to the sad Grey Peel;
Unpeered he stands i' the forest yet,
For a trusty hand and a bitin' steel.

And gallopin' up comes Ruecastle Hew,
On his Bewcastle naig o' the gude steel grey,
An' Fernihirst grim, but ever heart-true,
Whase ready Kerr hand redds mony a fray.

An' Rumpet Dowford, the ae-lugget loon,
And lang-armed Tam o' the Waterside Toor ;
And muckle Wull Elliot o' Jethart toon,
Wi' staff aye ready for ony stoor.

Baith east and wast they muster and rin,
Wi' eager speed the fair May to trace ;
And the sad days close as they begin,
And auld Wat manes for her bonnie face.

Six heart-fearin', heart-wearin' weeks are away,
In forest and open a' search in vain,
And hope seems dead for the lang lost May ;
It's mystery a' ower hill and plain.

But, hark, what news is this by the way,
Whilk auld and young guars loup i' their shoon,
That May was seen i' the gloamin' grey
On the Toor o' the treacherous laird o' Boon.

And Gilbert o' Corsbie, ready and sure,
Up faced wild Boon wi' an angry ee,
An' vowed he wad clear his lady-bour,
Or he or himself wad surely dee.

Now, Boon for man had never a fear,
Had sinew an' heart o' granite stane ;
But his flashing swurde an' his fiendish leer
On dauntless Gibbie effect had nane.

On Boon hill back they take their stand,
An' draw their brands o' the Spanish steel ;
Then fit to fit an' hand to hand,
They thrust and parry, syne slash and reel.

But Gibbie has pricket the laird o' Boon,
An' rage-blind now that sic should be,
He springs on Gibbie, but that nimble loon
Strikes life wi' death frae his fause body.

They bury him speedily where he fa's,
 An' rush frae the fatal spot away
 To search the boles o' the auld Toor wa's,
 Wi' beatin' hearts for the lang-lost May.

She's found i' the bour, proteckit right weel
 By Boon's auld tittie—Black Marjorie :
 But soon they light doon at the blythe Grey Peel,
 Where auld Wat laughs and greets wi' glee.

Frae east to wast to the Grey Peel gay
 Gude sprinklings o' blythe company ride,
 To pleasure auld Wat an' his winsome May,
 Now gallant young Gilbert o' Corsbie's bride.

There's naething but mirth within the wa's,
 Thereout there's joy 'mong women and men,
 An' sweet is the strain o' the wind that blaws
 Through the whisperin' leaves i' the Grey Peel Glen."

The Secretary reports that the incident upon which this ballad is founded is recorded in "Pitcairn's Trials." Alexander French, Tutour of Thorniedykis (in the parish of Westruther), and John Cranstoun, brother of Patrick Cranstoun of Corsbie, had been rival suitors for the hand of the fair daughter of the Laird of Boon. They accidentally met on Boon Hill, one of them returning from her father's castle and the other going to it. A quarrel about the damsel ensued, resulting in the fatal injury of Cranstoun by French and "James Wicht of Gordon Mylne, his sister-sone." This took place on 10th February 1612, and Cranstoun lingered until 1st March, when he died. At the instance of his brother, Patrick of Corsbie, the two murderers were tried at Edinburgh on 13th March of the same year. "Hew Bell in Blithe" was chancellor of the jury who convicted the accused "of crewel unmerciefull slaughter of the said umqle Johnne Cranstoun." The sentence was:—"To be tane to the Castell Hill of Edinburgh, and thair thair heidis to be strukin from their bodeis, and all their moveable guidis to be scheit and inbrocht to his maiesteis use as convict, etc.!" Mr Crockett,

in his "Minstrelsy of the Merse," says:—"The people of the district in which the crime was committed, to mark the abhorrence of the deed, erected an old stone cross on the spot. This relic stands below Old Boon, in a plantation about a hundred yards above the public road leading to the farm of Dods. It is locally known as the Laird's Grave, and the Dods Cross Stane. Old inhabitants of the district also remember their fathers telling them that at certain times the neighbouring farmers and others used to meet at this cross to exchange their lintseed, etc., which gathering was called the Pirn Fair. Not a vestige of the Castle of Boon now remains, but it is supposed to have stood somewhere to the west of 'Dods Rauchan.' The Cranstouns of Corsbie Tower were a branch of the Cranstouns of Crailing."

Of Corsbie Bog it may be said it was once a haunt of the Black-headed Gull (*Larus ridibundus*), but has been deserted since it was drained. There are a few scattered birches in the moss, and some native sallows on its outskirts. The bog sweeps round a long way, till the cultivated ground of Legerwood crosses and occupies the space.

Returning to Legerwood, pleasant prospects were obtained as the party passed along. These included in their scope such prominent features as Hume Castle, the vale of the Leader towards Cowdenknowes, the Eildons, and even some of the Selkirkshire hills. The ancient church of Legerwood, which has only quite recently undergone restoration, was viewed with much interest. When the company had gathered within its walls, the Secretary asked Mr Ferguson, Duns, to read his description of the edifice as he found it a few years ago when he contributed to the Club's Proceedings his paper on "The Pre-Reformation Churches of Berwickshire." Restoration had not been thought of at the time this paper was written, and Mr Ferguson strongly animadverted on the supineness of the heritors in allowing such a fine example of old Norman architecture to remain in the ruinous condition in which it then was. He now expressed the satisfaction which he, in common he was sure with all the members of the Club, felt in seeing this sacred building so carefully and reverently restored with such complete preservation of its

ancient features, notably the beautiful Norman arch of the chancel. The chancel contains the tomb of John Ker of Moristoun, and of his wife, the famous heroine Grissell Cochrane, who robbed the postman near Belford of the warrant for the execution of her father (Sir John Cochrane of Ochiltree, concerned with Sir Patrick Home of Polwarth in the political troubles of the reign of James VII.), and by this means obtained delay till successful intercession was made for his life. An elaborately ornamented tombstone of white sandstone bears the inscription:—

Her rests the corps of John Ker
of Moristown who departed this
life the 27 of September 1691 in
the thretth year of his age

As also the corps of
Grissell Cochrane his lady
who died the 21 of March
1748 in the 83d year of her age.

In the chancel there were also seen two sculptured stones, now built into the south wall for preservation—one a pre-Norman cross, and the other a beautifully carved fragment of uncertain date—which were found on the site of the church. Attention was also called to a piscina niche in the north wall and a remnant of the original fresco work, which no doubt covered the interior of the chancel when the church was in its original state. The windows have been filled in with beautifully painted glass. Mr Leadbetter, on the invitation of the Secretary, gave a brief, interesting account of the restoration, in which reference was made to the indefatigable exertions of the late Rev. Mr Rankine, minister of the parish, who, unfortunately, was not spared to see the work completed, and to the generosity of Mr Ligertwood, London, at whose sole expense the work of restoring the chancel had been carried out. Messrs Hardy & Wight, Edinburgh, were the architects who superintended the work of restoration.

Leaving Legerwood Church the party proceeded to the Everett Moss, or, as it has been called, the Dowie Den Moss Loch, or Pickie Moss, where the black-headed gulls, or "pickmaws," nest in immense numbers. To get to it a detour had to be made by Legerwood farm steading. The village, as appears by the number of ash trees in a field at the roadside, had stood near the present dwelling. The loch lies in a hidden retired situation, little liable to disturbance. It has been the haunt of these beautifully white birds from time immemorial. They were seen in thousands skimming backwards and forwards in the reedy water, or ascending in a great cloud, filling the air with their harsh clamour. In the mid-day sun the glancing of so many snow-white wings formed a scene not soon to be forgotten. A pair of teal, a number of mallards, and other water fowl were also observed. It is a matter for congratulation that all these interesting birds are now under the protection of the law during their breeding season. A former Earl of Lauderdale, known as the "Sailor Lord," when in weak health, was ordered by his medical attendant to eat eggs of the black-headed gull gathered from this moss, which he did, and was benefited thereby.

An old friend tells me that at one time something had gone wrong with the sluicing of the mossy loch, and that when the gulls returned in spring, for nesting purposes, they found the moss too dry, and left. This occurred during three consecutive seasons. After the sluicing was made good they returned, but another season or two passed before they "again appeared in countless numbers" on

"The age-long haunts, where they have made
Their marsh-defended nests, and laid
Their mottled eggs, and reared their young,
And o'er it thick as snowflakes hung,
Wheeling and screaming in delight,
A summer's day, a summer's night."

Thus sings my old friend of the "pickies,"

At Legerwood farmhouse the company were hospitably entertained to luncheon by Mr Leadbetter. The house is very prettily situated in the centre of an important arable farm extending to 1600 acres, and occupies rising ground, which commands a wide and delightful view of Border landscape. Mr Leadbetter also kindly exhibited a large antiquarian collection, which included a bride's ladle, deposit of salt taken from the bottom of an Atlantic steamer's boiler, a piece of iron which had been stripped from a railway rail at white heat (when the brakes were suddenly applied to avert a collision), Welsh and Highland "cruisies" with rush wicks, bronze spear-head found at Ploughland Burn, Lanarkshire, and many other curiosities. A pair of Whooper swans in the lobby also attracted attention. They were fine adult birds in snow-white plumage, and had been shot in the neighbourhood by Mr Leadbetter a few years ago.

Before reoccupying the brakes, a very cordial vote of thanks was given to Mr Leadbetter, on the motion of the President.

Resuming the drive, the brakes soon entered the policies of Chapel-on-Leader by the north entrance. The name of the estate is derived from the Chapel of St. John, near Kedslie, subordinate to Dryburgh, but no remains of it now exist. The plain, old fashioned mansion was reached by a sweet winding avenue. The house is most exquisitely placed in the valley of the Leader, and is furnished with great taste. The well-kept gardens were visited, and much admired; but not least enjoyable was the view of the finely wooded vale of Leader, obtained from the south windows. As far as the eye could reach the glen was clothed on either side by a varied assortment of magnificent trees in the first flush of their summer beauty. The estate was acquired by the late Mr Roberts of Galashiels a good many years ago. By the kindness of Mrs Roberts, refreshments were served to the company.

Leaving by the south avenue, and crossing the Leader by a neat suspension bridge, a drive of a mile or so on the Lauder and Earlston road brought the party to the entrance to Carolside, situated in the vale of the Leader, and the Berwickshire residence of Lord and Lady Reay. It is a

charming place, its beautifully diversified grounds surrounding the mansion on all sides. Lord and Lady Reay, who were in London, had kindly given instructions for the reception of the Club, and the house and policies—the latter containing a fine herd of deer—were viewed with great interest. On the lawn, near the entrance drive, was pointed out a large flat stone, which had been placed there by the late Captain Mitchell of Stow. It bears the inscription:—"This stone is placed by the directions of Alexander Mitchell, Esq., of Stow, to mark the spot which was the ancient burial place of the Lauder family."

Many years ago there was a large rookery at Carolside, which was destroyed by the late proprietor, Captain Mitchell. The rooks, however, did not fly far afield. They simply went a little further up the valley and nested in Chapel woods, greatly augmenting the rookeries there.

At four o'clock the company dined in the Red Lion Hotel, Earlston. Mr Smail, President, occupied the chair, and the croupiers were Mr Gunn, Secretary, and Mr Bolam, Treasurer. After dinner the usual loyal and other toasts were given briefly from the chair, and a cordial vote of thanks was accorded to Mr R. H. Dunn for the excellent service which he had rendered in connection with the arrangements for the day's proceedings.

In response to the President, Colonel Milne Home, as convener of a Committee appointed at the preceding meeting at Berwick, reported what had been done in regard to a resolution of the Club to erect a memorial to the memory of their late Secretary, Dr Hardy. He read letters received from Dr Hardy's widow, and also from Mr George Hardy, who wrote on behalf of his father, the late Dr Hardy's brother. Both cordially thanked the Club for its kindness, and expressed entire approval of the proposal to place a memorial window in the north wall of Coldingham Priory. The Committee, Colonel Milne Home said, had again met that day, and resolved to recommend the adoption of this proposition. It had been further resolved to issue a circular to the members inviting subscriptions, not to exceed 5s. per member. It was hoped that every member would thus have an opportunity of contributing. He hoped that at next

meeting he would have a further report to submit as to the form of window the Committee might be able to suggest should be adopted. The action of the Committee was approved.

Several gentlemen were nominated for election to the membership of the Club.

Mr Paton, of the Register House, Edinburgh, exhibited a number of old Wedderburn charters of the time of Robert the Bruce. Dr Stuart, Chirnside, had an interesting vasculum of flowers grown by himself. These included *Daphne fioniana*; *Daphne neorum*; Hybrid golden tufted pansies (Stuart); *Erica mediterranea* from Urrisbeg, Connemara; *Aquilegia stuarti*, "Connemara"; *Gentiana verna*; Blue primrose (G. F. Wilson strain); *Hybrid primula*, "General" (Stuart) new, scarlet. (Dr Stuart had an invitation from Sir Trevor Lawrence, President of the Royal Horticultural Society, London, to attend the conference of Hybridists, from over Great Britain and the Continent, at Chiswick, to read a paper on his work, and attend the banquet at the Hotel Metropole, London.) Mr Tom Scott, A.R.S.A., showed a large collection of local antiquities, comprising stone spear-heads, arrow-heads, axes, hammers, etc. One particularly fine green quartzite axe was shown, which had been found near Greenlaw.

THE FARNE ISLANDS.—By the Treasurer.

THE rendezvous for the third meeting, on Thursday, 22nd June, was at Berwick for the Farne Islands, and the morning being gloriously fine a large party assembled on the quay at the appointed hour of 10 o'clock. The steam-boat "Empress of India" had been chartered for this trip, and the following members and their guests were of the party:—Mr James Smail, F.S.A. (Scot.), President; Rev. George Gunn, Secretary; Mr George Bolam, F.Z.S., Treasurer; Colonel David Milne Home, Caldra; Mr D. W. Milne Home, A.D.C. to His Excellency the Governor of Trinidad and Tobago; Miss A. Milne Home, Miss J. M. Milne Home, Sir Archibald Buchan-Hepburn, Bart., General Boswall, Melrose; Major Macpherson, Edinburgh; Mr James Tait, Belford; Dr Stevenson Macadam, Edinburgh; Mr Hugh M. Leadbetter, Legerwood; Mrs Widdrington and Mr George Widdrington, Newton Hall; Mr W. Grant Guthrie, Hawick; Mr Arthur Giles, Edinburgh; Mr Ben. Morton, Sunderland; Colonel Brown, Longformacus; Captain McLaren, K.O.S.B., Berwick; Mr E. Willoby, Berwick; Rev. John, Mrs, and Miss Reid, Foulden; Rev. R. C. Inglis, Berwick; Rev. E. Arkless, Earsdon; Rev. Hugh Fleming, Mordington; Rev. J. A. Findlay, Sprouston; Rev. J. Patterson, Ancrum; Rev. J. S. Goldie, Walkerburn; Rev. G. Ellis, Mr David Herriot, Berwick; Mr Thomas Darling, Berwick; Mr Adam Darling, Berwick; Mr A. Borthwick, Mindrum; Mr T. B. Short, Berwick; Mr J. Jordan, Edinburgh; Mr George Hardy, Oldcambus; Mr J. Hood, Miss Jean and Miss Margaret A. Hood, Linhead; Mr James A. Somervail, Broomdykes; Mr Hippolyte J. Blanc, F.S.A. (Scot.), R.S.A., Edinburgh; Mr A. Riddle, Yeavering; Mr G. S. Riddle, Tweedmouth; Mr R. Amos, Alnwick; Mr J. Ferguson, Alnwick; Mr J. Cairns,

Alnwick; Mr George Craik, Alnwick; Mr Yeoman, Newcastle; Mr J. L. Newbiggin, Alnwick; Mr Middleton H. Dand, Hauxley; Mr John Turnbull, Galashiels; Mr James W. Bowhill, Edinburgh; Mr and Mrs Thew, Alnwick; Mr W. M. Pybus, Newcastle; Mr R. Middlemas, jun., Alnwick; Mr F. Webb, Alnwick; Mr J. Lindsay Hilson, Jedburgh; Mr Thomas Greig, Roxburgh; Mr F. Lynn and Mrs Lynn, Galashiels; Dr R. Shirra Gibb, Boon; Dr Dickson, Berwick; Mr O. L. Wigram, Mr E. Blagg, Mr G. Henderson, Upper Keith; Mr D. Bruce, Mr R. C. Smith, Ormiston; Mr T. Smail, Jedburgh; Mr A. Bowie, Langholm; Mr R. Carr, Cheswick Cottage; Mr J. Crawford Hodgson, Warkworth; Mr J. Barr, Berwick; Mr H. Wilson, Berwick; Mr R. W. Hopkinson, and Mr R. T. Mark, *Berwick Journal*.

The weather overhead was all that could be desired, but a heavy ground swell was unfortunately running outside, and as we crossed the bar it became evident that the day would not be one of unmixed pleasure for those who did not happen to be good sailors. However, the *mal de mer*, in the early part of the day at any rate, was not of a sufficiently virulent type to prevent us for the most part enjoying the run out; and the fine views of the coast, with Holy Island and Bamburgh Castle, were much admired by everybody as we steamed along. During the voyage luncheon and refreshments were provided on board by Mr Jack Parslow of Wooler Cottage Hotel, who, notwithstanding the somewhat difficult circumstances under which he was placed, fully maintained his reputation as a caterer of the first order.

In the course of the sail out the Rev. George Gunn made intimation of the fact that Mr Thomas Tate of Allerburn had written him on 14th inst., stating that the Humming Bird Hawk Moth had been frequently seen in his garden during the past week or ten days, and that two specimens had been captured (temporarily) inside the house, one by

himself. He saw by the newspapers that the insect seemed to be quite common in the north this year. Mr Tate added that he had been told of the appearance in that neighbourhood recently of the Broad-bordered Bee Hawk Moth, but he had not seen the specimen. There was also exhibited a bronze spear-head, found by John Hood, wood cutter, Rutherford, and sent by Mr Jackson, merchant, Kelso, a notice of which, with illustration, will appear in the present number.

The Club had three times previously visited the Farnes, viz., in 1854, in 1866, and in 1884, and Mr George Tate's long and exhaustive report upon the islands, which was printed in Vol. III. of the Club's History, as well as Captain Norman's later account of the 1884 meeting (Vol. x.) may be referred to for much interesting detail concerning the history of the islands.

On our arrival at the Inner Farne, where as usual the steamer was moored under the shelter of the eastern shore, the party was joined by boats from North Sunderland, bringing off with them a further consignment of members who found it more convenient to travel by that route, and including Mr H. A. Paynter of Alnwick, through whose kind offices full permission had been obtained for the Club to land where they liked, and to visit the breeding stations of the different birds. Unfortunately, however, the sea was too rough to permit of a landing being effected at more than one or two of the smaller islands, but on the Noxes and Wedums members had an opportunity of closely inspecting the nests of the Terns, Eider Ducks, Puffins, and Gulls.

The majority of the company meanwhile entertained themselves on the Inner Farne by an inspection of the ancient ecclesiastical remains; two stone coffins lying in front of St. Cuthbert's Chapel; the monument to Grace Darling; and the *Churn*, a large fissure in the basalt where the waves

in a storm are churned into spray, which rises to such a considerable height as to be visible from the mainland.

The present Chapel of St. Cuthbert stands upon the site of a much older building, and was restored to its present condition by the late Archdeacon Thorp in 1848, his memory being perpetuated by a stained glass window in the chancel representing the figure of St. Aidan, the first bishop. Another window of equal beauty shows St. Cuthbert, with King Oswald's head in his hand, and is dedicated to the memory of that saint; while a third, in remembrance of Grace Horsley Darling, who died on 20th October 1842, and who was buried in Bamburgh Churchyard, shows the figure of St. Ethelwald.

Suspended over the flowers of the Sea Campion (*Silene maritima*), which everywhere clothes the rocks with its pleasing green foliage and white blossoms, one or two specimens of the Humming Bird Hawk Moth (*Macroglossa stellatarum*) attracted attention, and we were told by the watchers that they had observed several of these moths during the previous week or two. This insect had appeared in the district, and indeed all over the country, in great profusion in the early part of this month, many having been seen or captured in different places; and during a visit to the Farnes on the 8th inst., I noticed them upon more than one of the islands. Upon that occasion also two Painted Lady Butterflies (*Vanessa cardui*) were observed upon the Wawmses.

Although the sea to-day most unfortunately prevented any serious work, from an ornithological point of view, being attempted, the following observations, made in the course of several visits to the islands during recent years, will suffice to bring up to date Mr Selby's notes upon the birds, as given in Mr Tate's paper already referred to.

Thanks to the protection now afforded by the Wild Birds' Protection Act, and to the meritorious efforts of the Association

which rents the islands for the purpose, the number of birds breeding on the islands has certainly not diminished during recent years; while several species, which had begun to grow scarce as breeding species, have now considerably increased.

The commoner Terns (*Sterna cantiaca*, *S. fluviatilis*, and *S. macrura*) are probably about as numerous as ever, though they seem to be rather erratic breeders, and in some seasons have been reported to have almost entirely deserted their eggs when upon the point of hatching! A considerable destruction of their eggs is also sometimes caused by an unusually high tide covering parts of the beach on which they are laid, and on such an occasion the eggs may be found washed up in numbers amongst the "wrack" or sea-weed at high water mark. I have not for the last few years been able personally to identify any Roseate Terns (*S. dongalli*) nesting, but Mr Paynter informs me that a pair or two are generally still to be found. In the autumn I have observed small flocks of them fishing in the neighbourhood of the islands, but these are perhaps birds which have nested elsewhere, and are only passing on migration.

Of the Gulls, the Lesser Black-backed (*Larus fuscus*), the Herring Gull (*L. argentatus*), and the Kittiwake (*Rissa tridactyla*) are the only species which breed. The first named is one of the most numerous birds upon the islands, and is only kept within bounds by the watchers, who are instructed to take as many of its eggs as possible from the inner islands, where it is apt to destroy the eggs of the Eider Ducks and Terns. Its nests are, however, left unmolested upon the Wawmses, and some of the outer islands, and it is there that the bulk of the young birds are reared. A few pairs of Herring Gulls are always associated with the Black-backs; but, in spite of their vastly inferior numbers, I am inclined to think that they do more harm to the eggs of other birds than their more numerous relatives,

They seem ever to be on the watch for unguarded nests of the Eider Duck, and round the nest of a Herring Gull, which Mr Paynter and I took this year, on the rocks opposite to the Pinnacles, we found the remains of quite a number of Guillemot's eggs, which had been carried to the neighbourhood of the gull's nest and there devoured. The Kittiwake is still an abundant breeding species.

Puffins (*Fratercula arctica*) seem to have increased as much as any bird upon the islands during recent years, and flourishing colonies inhabit the burrows on the Wawmses, Noxes, and Brownsman. The tops of the Pinnacles are as closely crowded as of yore by swarms of Guillemots (*Uria troile*), and as we watch an individual wing its way in from the sea, and, *alighting upon the backs of its densely packed companions*, proceed to elbow its way in amongst them, it is difficult to believe that each mother can recognise her own young one, or locate the exact spot where her own particular egg is lying amongst the crowd. Be that as it may however, the eggs are hatched, the young are reared, and nature is satisfied, and the pleasures of incubation do not seem to be in the least interfered with by any doubt arising in the parent's mind as to whether or not the egg she is sitting upon may really have been laid by herself. It is a thoroughly democratic and good-natured community upon which the eye rests, and save for an occasional open-mouthed demonstration that one is treading upon another's toes, or a little bickering, all is harmony amongst the serried ranks. A good many, more or less bridled birds, are always visible, but really good examples of the Ringed Guillemot are not very common upon the Farnes. Razor Bills (*Alca torda*) are rare in the breeding season, and do not often nest upon the islands. A pair of Black Guillemots (*Uria grylle*) frequented the neighbourhood of the Pinnacles up till nearly the end of May in the present year, but then disappeared. The nearest breeding station of this bird is at the Bass Rock,

Handwritten:
with office
play like
longer
you are here & happy
the day

but a few individuals may sometimes be met with about the Farnes in autumn or spring.

Cormorants (*Phalacrocorax cabro*) have increased decidedly, and the Shag, or Green Cormorant (*P. graculus*) seems also to be increasing. A pair, and sometimes two, have bred pretty regularly on the ledges round the Pinnacles of late years, and in the early autumn of 1898 I found quite a number of both young and adult birds about the islands, though it is improbable that more than one or two of these had been bred there.

Eider Ducks (*Somateria mollissima*) have certainly not diminished in numbers, and the fearlessness of some of the ducks upon their nests is as surprising as ever. It is not very unusual for some of them to allow themselves to be actually touched without leaving their eggs; while an old duck will often, when disturbed from her nest, only waddle away from you a few paces and return as soon as you have retired again to a short distance.

Oystercatchers (*Hæmatopus ostralegus*) and Ringed Plovers (*Ægialitis hiaticola*) nest in small numbers on several of the islands, and members had the satisfaction of seeing a nest of each of them upon the Wideopens, on the occasion of our visit. The Rock Pipit (*Anthus obscurus*) is another bird which makes the islands its home, and is fairly numerous. In July 1898 we found a nest, which still contained eggs, in the wall of one of the ruined buildings near St. Cuthbert's Chapel.

Amongst birds which may be seen with considerable regularity upon the islands during summer, but which have not been known to nest there, may be mentioned the Turnstone (*Streptilas interpres*), Dunlin (*Tringa alpina*), and Purple Sandpiper (*T. striata*), while I have seen Grey Plovers (*Squatarola helvetica*) there, in full breeding plumage, late in the spring. Early in the present season the watchers reported that a King Eider Drake (*Somateria spectabilis*) had

appeared, but he did not stay for more than a week or two. Specimens of this fine northern species have more than once been killed in the vicinity of the islands.

But I have already digressed at too great length, and must return to ourselves. It was a keen disappointment to many of the party, who had good "sea legs," not to be able to visit more of the islands; but after steaming past the Pinnacles, and standing some way on our course to the Crumstone—where it was hoped that a view of the Seals (*Halichærus gryphus*), which make that lonely rock their home, might have been obtained—compassion for those who were *not* enjoying themselves prevailed, and the order was reluctantly given to 'bout ship and run for home. As a consequence of thus not completing our programme, we arrived off the mouth of the Tweed considerably sooner than had been anticipated, and the boats that had been chartered to come off to take us ashore were not in readiness. The state of the tide would not allow the good ship "Empress of India" to enter the river, and there was therefore nothing for it but to cast anchor, and, by blowing the syren, endeavour to attract the attention of our boatmen to the fact that we had returned and were ready for them to take us ashore. It was weary work this waiting, and a very long hour had passed before the last of the party had been safely landed upon the pier, and long before our release from "the trough of the sea" could be effected, there were few of us who had not had enough of it, and who from the bottom of our hearts were not disposed to agree with the lines of the *Aphorism of Enayna*, that

"He who goes to sea for pleasure
Will find comfort in Gehenna."

SELKIRK.—By the President.

THE FOURTH MEETING of the year was held at Selkirk, on Wednesday, 19th July, when the following gentlemen were present:—Mr James Smail, F.S.A. (Scot.), President; Rev. George Gunn, Secretary; Dr Stuart, Chirnside; Sir George Douglas, Springwood Park; Mr Thomas Craig-Brown and Miss Craig-Brown, Selkirk; Mr Alex. F. Roberts, Provost of Selkirk; Mr William B. Boyd, Faldonside; Mr C. H. Scott Plummer, Sunderland Hall; Rev. Dr Paul, Edinburgh; Mr G. G. Butler, Ewart Park; Major-General Boswell, Darnlee; Mr John Ferguson, F.S.A. (Scot.), Duns; Herr Johannes Albe, Duns; Mr Thomas Smail, Jedburgh; Mr Kenneth Cochrane, Galashiels; Mr Charles Rea, Cleithaugh; Mr James A. Somervail, Broomdykes; Mr John Turnbull, Galashiels; Professor Pringle Pattison; Mr Alison; Captain Vane; Miss Lorimer, Farnham; and Professor Fraser.

Leaving the Station Hotel at the early hour of 9-30, the drive was to the site of the old Castle of Selkirk, where Mr Craig-Brown favoured the company by reading the short paper which is printed *in extenso* in Appendix I. to this Report. He also led a section of the company over the large and well-defined Camp on Bell Hill, a little to the left of the road leading to Clarilaw. A drawing, with full description of this Camp, is given by our fellow member, Dr Christison, in a paper on "The Forts of Selkirk, the Gala Water, the Southern Slopes of the Lammermoors, and the North of Roxburgh," published in the Proceedings of

the Society of Antiquaries of Scotland for 1895, a paper which may be consulted with advantage. Mr Craig-Brown remarked that the Camp was mentioned in an Act of Parliament as the "Pickwork," which he suggested might account for the name of "Pickwork ditch" sometimes given to the Catrail.

By the courtesy of Professor Pringle Pattison, the policies of the Haining were thrown open to the Club, and the grounds and exquisite bits of scenery were much admired. An eyesore to some of the party was the somewhat muddy-looking water of the lake, occasioned by the presence of a minute species of *Alga*, which is referred to by Dr Paul in Appendix II.

The party next proceeded, by Hartwoodburn Meadow, to the Lang Moss near Clarilaw Moor, where, as well as on Whitmuirhall Moss, some good botanical work was done, under the guidance of Mr Boyd. A notice of the chief plants found is given by Dr Paul in Appendix II. to this Report.

On the return to Selkirk, a most instructive and enjoyable day was brought to a conclusion by the usual dinner at the Station Hotel.

Mr D. Carnegie Alexander, Thirladean, supplied the Secretary with a long and interesting list of birds observed in Selkirkshire, from which we find that the Raven is still found breeding on Meggat Water, and is not unfrequently seen. An Osprey was seen in Ettrick in 1899, and Mr Scott Anderson has a specimen stuffed, which was killed close to the Shaws. Merlins have been known to nest at Yair, and such rarities as the Red-legged Hobby and the Kite are reported to have been seen. The Rough-legged Buzzard, as might be expected, occasionally visits the district in winter. The Barn Owl is not unknown, and at the time of the Vole-plague the Short-eared Owl became quite common. A Great Grey Shrike was seen at the Haining during the present year,

and others have been recorded from Hangingshaw and other places in the county. Bramblings are frequent in winter, and an occasional Goldfinch has been seen on Tweedside. The Ring Ouzel is common, and breeds amongst the hills. Garden Warblers and Blackcaps are both summer visitors, the latter being the most numerous, and Mr Alexander has seen the Yellow Wagtail at General's Bridge, on the Yarrow. Siskins and Pied Flycatchers have been noticed from time to time. The Stock Dove is still uncommon enough to make the records of one seen at Peelburn and two at Ettrick Bank worth mentioning. Crossbills and Waxwings have been seen at Borthwick Brae and the Haining. Spotted Crakes have been killed in more than one locality, and Coots are common, breeding on Potloch and other places. The Dotterel still continues to visit Ettrick and Shaws, but is seldom seen now. The Dunlin has been known to nest at Whitehillshiel. Oystercatchers are frequent spring and autumn visitors, but do not stay, and Mr Scott Anderson has seen the Greenshank at the Shaws Loch. The same sheet of water has been visited by Bewick's Swans, one killed there being preserved at the Shaws, and the Golden Eye, Pochard, Sheld-Drake, Shoveller, Wigeon, Scaup, and Tufted Duck are all occasional visitors, the last-named remaining to breed at Faldonside, on a small loch belonging to Mr Boyd. A single specimen of the Pintail was killed by the keeper on the Haining loch. Brent Geese have been shot more than once, and a Smew was got at Bowhill some years ago. Mr Anderson once had in his possession a Garganey, killed at Oakwood Mill burn. A Little Grebe is occasionally seen; two or three Storm Petrels, and one Fork-tailed Petrel, have been picked up about the town of Selkirk, and amongst other erratic visitors may be included a Puffin, a Tern, and an occasional Great Northern, and Red-throated Diver. A Kittiwake is said to have been once blown so far out of its accustomed haunts as to have been shot at Selkirk cauld,

and the lochs and mires, especially about the irrigation works, are often visited by Gulls, including even that noble bird the Great Black-backed Gull.*

APPENDIX I.

*On Selkirk Old Castle.—By T. Craig-Brown,
F.S.A. (Scot.)*

The first recorded mention of Selkirk is in a charter of David I., who, about 1110-1120, some years before he ascended the throne, founded an abbey at Selkirk, endowing it with extensive lands and valuable privileges. In that charter Earl David speaks of the old town, of his castle, and of a previously existing church—doubtless the church which gave its name to the original settlement—Scheleschyrehe, or the kirk of the Shiels. Shiel or shieling (in monk Latin, *scalenga*) was the name given to a hut or house erected within the precincts of a forest, sometimes coupled with certain rights of pasturage. Although there is no certainty, the wrong presumption is that the primitive church occupied the same site as the ruined building in the churchyard, not far from where they stood. When David became king, he transferred the monks from Selkirk to Kelso, and with them the endowments. Tacked on to the end of the charter of removal there was a curious clause which provided that the abbots of Kelso should be chaplains of the king and his successors at “the aforesaid church,” meaning probably the church of Selkirk. It may be noted that up till the time

* It would be very desirable if details of the occurrence of some of the rarer birds, above mentioned, could be furnished; without full verification, casual references to such rarities as the Kite, Red-legged Hobby, and Garganey, lose half their value.—G.B.

of the Reformation we read of priests who had the double vicarage of Selkirk and Auld Roxburgh.

Although for the next century and a half there is no specific mention of Selkirk Castle, there is record of several courts or parliaments held at Selkirk by the king, from which we may safely conclude that the royal residence continued to exist. Strangely enough, it is to English documents we are indebted for nearly all further information. In 1300 Sir Aylmer de Valence was declared responsible to Edward I. for provisioning the Castle of Selkirk, and next year an English army of several thousands received its pay at Selkirk, after having been reviewed at Midlem. A silver penny of Edward I., found not long ago in a garden, may have been part of this army's pay, spent on the spot, as the way of soldiers is.

Early in 1302 Edward I., then at Roxburgh, appointed Sir Alex. de Balliol and Sir Robert Hastang to superintend the work for erecting the fortress of Selkirk; and so rapidly was it pushed forward that by September the following report was sent to the king:—"The Tower of the Fortress of Selkirk is finished except the roof from default of plunk (probably *lead*); a postern is made out of same to the west, faced with stone; a drawbridge and portecullis with a good bretasche above, the stonework of said bridge being half finished. And 14 perches (77 yards) of pele are made from one part of the tower to the other, leaving 43 perches ($236\frac{1}{2}$ yards) of pele yet to make. The stonework of the chief gate of the fortress is raised above ground to the drawbridge." For provisioning this castle there were sent from Berwick:—"60 qurs wheat, 10 casks wine, 120 qrs malt, 160 qurs oats, 10 qurs salt, 20 qurs beans and pease, 20 crossbows, 5000 arrows, and 60 qurs sea-coal."

All these preparations, however, appear to have been of little avail, for early in 1304 we find Balliol receiving King Edward's pardon for the loss of the pele of Selkirk, for

which he was responsible under forfeiture of body, lands, goods, and chattels. It is highly significant that at this very time Wallace had returned from France, and that there is evidence of the Scots hero being in the south of Scotland. In 1306, the year after Wallace's betrayal and execution, Aylmer de Valence, afterwards Earl of Pembroke, got a gift of Selkirk Castle with the forest lands; and four years later we find the English king staying several days at the Castle, busy with the subjugation of his new and unwilling subjects. After Bannockburn the Castle passed, with the office of Constable of Selkirk, into the hands of Turnbull of Philiphaugh, a stout soldier of Robert the Bruce. From them it passed to their kinsmen, the Murrays, and finally into the possession of burgess families of Selkirk, under the name of "The Auld Peel." The street which led up to it from the Kirk Wynd used to be called the Peel Gait, until certain unreflecting authorities had it Englished into Castle Street.

Haining is not an uncommon name in Scotland, Acts having been passed from 1535 to 1617 ordering the formation, or prohibiting the destruction, of plantations and haynings. The name of this estate occurs, however, at a much earlier period, and there is room for believing that it may have been the "hanit part" of the ancient forest referred to in the Forest Laws of William the Lion. The new part of the present house was built about 100 years ago of the stone of the district; but one of the Pringle lairds, who had been military attaché abroad, brought home an Italian architect who faced the front and back with freestone, and added many features of Italian architecture. Further on we shall see a very elegant span over a burn, still known as the Italian bridge. As regards the loch, now so much discoloured, a singular fact, which may have some connection with the discolouration, is that in 1661 the Mayor of Berwick raised an action against the Laird of Haining

for damage to the salmon fisheries, the river having been poisoned by the loch being drained into it.*

Before leaving the estate the Club will pass close to Hartwoodburn, a forest steading mentioned in the list of those forfeited by the Earl of Douglas to the Crown in 1455. It is interesting to note how many names recall the pastime of the chase in olden times—Hartwood, Huntlee, Hindhope, Buckcleuch, etc.; and many a gallant and royal company has no doubt started from the Castle, on the site of which we are now standing,

“When the mavis and merle were singing
When the deer swept by, and the hounds were in cry,
And the hunter’s horn was ringing.”

APPENDIX II.

*Botanical Notes on the Selkirk Meeting.—By the
Rev. David Paul, LL.D.*

In the Lang Moss on Clarilaw Moor, which was first visited by the Club, the only plants of special interest found were *Cicuta virosa* Linn., *Ranunculus Lingua* Linn., *Carex teretiuscula* Good., and *Carex filiformis* Linn. The last was found in considerable abundance, and more of it was in flower than is usually the case. In the Murder Moss these two Sedges were also found, along with *C. disticha* Huds. Search was made there for *Potamogeton plantagineus* Ducros, and *Utricularia intermedia* Hayne, but unsuccessfully, owing to the wet state of the bog. Both these plants are said to

* I well recollect that, in 1846, when walking round the loch, my attention was arrested by several trout, in a dying condition, gathered round the mouth of a very small runner which entered the loch, as though they were seeking fresh water.—J.S.

have been found there. In Whitmuirhall Bog there was abundance of *Scirpus lacustris* Linn., and *Phragmitis communis* Trin., and a few plants were found, in seed, of the rare *Corallorhiza innata* R.Br. This interesting plant was discovered there, in June 1895, by Dr Muir of Selkirk, and the discovery was communicated at the time by Dr Farquharson in a letter to Dr Hardy, published in the Proceedings of the Club for that year, p. 363. It occurs in two other localities within the limits of the Club's sphere of investigation. Mr William Shaw found it in July 1866, "in a wood on the roadside between Alemill and Whitfield," in the east of Berwickshire.—(See interesting notes on the plant by Dr Hardy in the Proceedings for 1866, p. 278.) The other locality for it is Newham Bog, in Northumberland, where it has been several times found.—(Proceedings, 1896, p. 44.)

The only other matter of botanical interest which the Club took note of was the curious confervoid plant which discolours the water of Haining Loch, and forms a dirty scum on its surface during the summer months. It has been observed there for about eighty years, and it does not seem to occur in any other loch in the district. Greville referred it to Agardh's genus *Lyngbya*, and gave to it the specific name *prolifera*. It is nearly allied to *Calothrix*. He describes it thus:—"Plant extensively diffused, forming a floating scum of a rich purple colour. Filaments extremely slender, entangled, somewhat rigid, yet flexible, entirely destitute of attachment, and free from any mucous layer. Annuli, from the minuteness of the filament, almost inconspicuous."—(Grev. Scot. Crypt. Flora, vi., 303. See also Hooker's English Flora, Vol. v., Part i., p. 370.) The plant deserves more careful study.

NEWTOWN ST. BOSWELLS, RINGLEY HALL, THE LAW, MAKERSTOUN, LITTLEDEAN TOWER, AND MAXTON.—By
J. Ferguson, F.S.A. (Scot.), Duns.

THE FIFTH MEETING of the season was held at Newtown St. Boswells, on Wednesday, 23rd August, the object being to visit some of the places of interest on Tweedside between St. Boswells and Makerstoun. The weather was superb, and a goodly number of members and friends assembled on the arrival of the morning trains. The excursion was under the guidance of the Rev. M. H. N. Graham, minister of Maxton, and Mr Ralph Richardson, F.R.S.E., F.S.A. (Scot.), Gattonside House, both of whom had previously rendered a like service to the Club in this neighbourhood. Carriages were in waiting outside the Railway Station, and a start was made about 11 a.m. for

RINGLEY HALL,

an old fortification or mote situated on the Tweed opposite Makerstoun House, and

THE LAW,

a moot-hill about half-a-mile farther down the river. The drive was one of extreme beauty and interest, passing through one of the fairest parts of the Border, where History and Romance have left their imprints on every side, and each step marks the scene of some event enshrined in song or story. Behind were the triple Eildons, on the slopes of which was born the Border Muse; in the distance, in front, loomed Lilliard's Edge, where were avenged the cruelties and ravages of the lieutenants of Henry VIII.; while close at hand flowed the classic river, enfolding in its embrace Dryburgh and its deep

veil of foliage, beneath which the great wizard, "in the midst of the land he has made enchanted," sleeps his last long sleep. St. Boswells Green and Maxton House were quickly passed, and then the ancient cross which marks the spot where once stood the market place of Maxton came into view. The base and shaft of the cross are apparently original, and lately, by the exertions of the Rev. Mr Graham, the upper part has been restored. On arriving at Ringley Hall, the party dismounted and examined the structure. Mr Richardson had kindly provided a number of printed copies of his description of Ringley and the neighbouring moot-hill for the use of the members, and it is unnecessary to do more than quote his account of both.

"According to Alex. Jeffrey's 'Roxburghshire' (Edin., 1859, Vol. III., p. 162), the remarkable structure known as 'Ringley Hall' is an ancient British fort. He derives the name from *Rhin*, a point, and *ley*, a fortified place; but, whatever its original appellation was, the modern name may have been popularly bestowed upon it from the three concentric rings surrounding the fort. Jeffrey gives as an illustration a 'Bird's-eye view of Ringley Hall taken in 1776,' which is a thoroughly untrustworthy representation of the fort, as it furnishes no idea of the wide extent of ground covered by Ringley Hall.

"By aneroid, I ascertained that the highest point of the fort is fifty feet above the ground outside its outer rampart. The fort occupies the summit of a headland, composed of porphyrite, rising abruptly from the right bank of the Tweed, but it is completely obscured by trees from persons passing quite close to it on the Kelso road. Consequently, Ringley Hall is little known and seldom visited.

"On measuring the area of Ringley Hall, I found that its dimensions were approximately as follows:—

Diameter of fort next Tweed	...	...	60 Yards.
Circumference of first or inner rampart	...	...	145 "
Circumference of remains of second or middle rampart	...	...	126 "
Circumference of remains of third or outer rampart	...	...	145 "

The two latter ramparts are cut, and large portions are obliterated, by a cultivated field, and by the Kelso road, which is here 236 feet above sea level.

“Dr Christison makes very slight reference to Ringley Hall in his ‘Early Fortifications in Scotland’ (Edin., 1898), but considers it a *Mote* or fortress; while Sir George Douglas, in his ‘History of the Border Counties’ (Edin., 1899), says the terrace-work or terraced fortification on the landward side of Ringley Hall serves to ally it to the *motes* or fortresses defended by palisades. Dr Christison points out that there is an essential difference between a *mote* or fortress and a *mute hill* or meeting-place. It is interesting to find, in such close proximity, instances of both a *Mote* like Ringley Hall and a *Mute hill* like The Law, which is a short distance to the east.

“The story goes that, during one of the incessant Border wars, the English held Ringley Hall, whilst the Scots concealed themselves on the opposite side of the Tweed, in a place subsequently called ‘The Scots’ Hole.’ The English being superior in numbers, resolved to attack the Scots by fording the Tweed at a ford some 500 yards above Ringley Hall; but whilst they were in the act of fording, the Scots sallied from their ‘Hole’ and utterly defeated them. Hence the old Scottish pun that the English learned to ‘Rue-the-ford’ of Rutherford, a place-name (formerly spelt Ruderfurde) derived from ancient terms for *red*, and perhaps from the Old Red Sandstones there.

“The Mutehill or Moothill, termed ‘The Law,’ is about half-a-mile down the Tweed from Ringley Hall, and also on the right bank of the river directly opposite Makerstoun House. It is an isolated conical mound, which I found, by aneroid, rises about seventy feet above the adjoining ground. Here, as in the days of the Anglo-Saxon *Witena-gemót*, or ‘meeting of wise men,’ the village elders assembled. Such Mutehills are common in Scotland, and the term occurs in such place-names as Muthill, Mutilaw, Mutelaw, Muttounbray, and Muttonhole, an instance of the last being quite near, in Maxton parish. The Law is also called ‘The Plea Hill,’ pointing to one of its original uses as a *forum commune*.”

Sir George Douglas has suggested that the fort now known as Ringley Hall may have been created by the early inhabitants of the district to act as a curb on the advance of the Anglian invaders of Northumbria under Ida, about the middle of the sixth century. The supposition is a plausible one, but nothing in the shape of evidence has yet been adduced in support of it. As bearing on the name "Plea Hill" applied to The Law, Mr Laing, Hawick, calls attention to the significant circumstance that in the vicinity of the well-known moat at Hawick there is a part of the town called "Playlaw," which may be a corruption of "Plealaw." It would be interesting to know whether similar names occur in the neighbourhood of other moots, and it is hoped that some of our members may follow out the line of investigation here suggested.

Leaving the Law the company clambered down the river bank and crossed by ferry-boat to

MAKERSTOUN HOUSE,

which, with its beautiful surroundings, was next inspected. The mansion, which occupies a commanding situation, is of considerable antiquity. It was destroyed in the English raids of 1545, was rebuilt about 1590 by Thomas Makdougall, and has been added to and improved in more recent times. Its late owner, Sir Thomas Makdougall Brisbane, who married the heiress of the estate, was a well-known soldier and man of science, and a President of the Royal Society of Edinburgh. It is from him that the capital of Queensland, Brisbane, takes its name. In the hall are displayed some fine coloured prints of Border Abbeys, bearing the date 1813. The picture gallery contains some interesting pictures, the most important being the original portrait of "Beardie," Sir Walter Scott's grandfather, who is thus referred to by his illustrious grandson:—

"And this my Christmas still I hold
Where my great-grandsire came of old;
With amber beard and flaxen hair,
And reverend apostolic air—
The feast and holy-tide to share,

And mix sobriety with wine,
And honest mirth with thoughts divine.
Small thought was his, in after time,
E'er to be hitched into a rhyme.
The simple sire could only boast
That he was loyal to his cost;
The banish'd race of kings revered,
And lost his land—but kept his beard."

Marmion, Introduction to Canto VI.

The members then visited the old churchyard now almost hidden by a cluster of spreading yews. It lies close to the mansion house, and is the only remain of the village of Makerstoun, to which a statistical return of 1649 (published in our Transactions of 1895, p. 350) refers, saying that "the kirk stands in the midst of the town, which is the greatest part of the parish." In the records of the Presbytery of Kelso there is, under the date 5th August 1668, a notice of the visitation of the parish, when the minister complains that "the kirk and queir [nave and chancel] are ruinous, neither watertight without, nor planted with seats commodiously within." There is also a list of the heritors at that date. They are Henry McDougall of Makerstoun; William McDougall, portioner thereof; Arthur Holywill of Atrick Medows; Thomas McDougall of Stodrig; and William Glaidstaines of Abbothill. Another notice, of 3rd August 1720, may be assumed to refer to the same building, for however roughly the Pre-Reformation Churches were then treated, the time for pulling them down, and replacing them by the rectangular shelters of which we are now slowly getting rid, had not yet come. A claim had been made for seats by two heritors, Thomas Macdougall of Stodrig and Walter Pearson of Charterhouse. "The Presbytery found by conversing with the heritors that there was no entry to the isle [probably the chancel] but by the church door, that the isle was not separated from the church by any rail or seat in the mouth of the isle till about five years ago, and that Stodrig, as he said for his own convenience, made a door in the gavel of the isle, and built a seat in the arch of the isle. Stodrig protested that the isle was not to be measured since it was no part of the church, but his own

property." The whole building was measured, however, and it was found that the kirk was 36 feet long by 19 feet 9 inches broad; the isle 17 feet 10 inches long by 14 feet 10 inches broad; the breadth of the arch 3 feet $1\frac{1}{2}$ inches, and its length 10 feet 6 inches. A mausoleum still stands in the churchyard, apparently of modern construction; at least it is not easy to connect it with the dimensions given above. The northern wall seems older than the rest, and may be either a fragment of the nave or the north wall of the chancel. On 3rd March 1807, the Presbytery sanctioned the removal of church, manse, offices, with garden and glebe, to "a more central site" at some distance. It is not unlikely that the stones of the ancient church were used as material for the new erections. (Rev. Dr Leishman's Notes.)

The present occupant of Makerstoun House, Mr Harrison Cripp, F.R.C.S., most kindly entertained the party to luncheon. Before leaving, Mr Cripp's hospitality was suitably acknowledged by the President.

The splendid trees in the policies of Makerstoun House are worthy of notice. A Beech, evidently of great age, measures 17 feet 6 inches in girth at the base, and there are many others almost as fine.

Recrossing the river, the company once more entered their carriages and proceeded back to

LITTLEDEAN TOWER,

which was reached about mid-afternoon. The Rev. Mr Graham read a most interesting historical account of the fine old ruin, which he has kindly permitted us to insert in this Report.

"This is a very old Border Peel, the favourite residence of a famous and redoubtable family, the Kers of Cessford, who also possessed the extensive property of Nenthorn, in Berwickshire. The building—now so grievously wrecked, thanks to the invasions of barbarous onslaughts, *not* of dare-devil foes, but of pick and shovel and gunpowder, to provide material for the erection of stables and the repairing

of worn-out roads—this Tower, I say, was of great extent and of enormous strength. It was said by the officials of the last Government Survey to be the finest specimen of a Border Peel in their large experience. ‘Portions of it’—I quote from ‘Notes on Maxton’ in our ‘Transactions’—‘are, as usual, of different dates, the earliest probably of the first half of the 14th century, and the most recent 200 years later. It was of an unusually large scale, for the plough now reveals that it covered a wide surrounding area. In shape it was a half-moon on the western, and an oblong square on the eastern side, while on the south side it appears to have jutted out considerably beyond the *western* oval tower, for some of its foundations in this direction were taken up not many years ago.’ It will be observed that there are three tiers of loop-holes—an uncommon number—and so placed as to command every approach. On the top-most battlement there ran all round a bartizan, 3 feet high, portions of which may still be seen.

“It will also be noticed how Nature has lent her own charms in a bit of exquisite scenery amid which to rear a mansion; and how also, with the river on the north side and a deep steep dell on the east side, sources of offence and defence, very rarely combined, were thus furnished to the fortunate inmates. With walls so thick, and loop-holes so skilfully placed, and these natural advantages, the Kers could slumber in peaceful security.

“The thrilling incidents, not always very creditable, of the Border feuds and raids are too well-known and threadbare to patch together now; but sooth to say, no more valiant, or aggressive, or skilful cattle lifters ever haunted or hunted hill and dale, with delicious disregard to *meum* and *tuum*, than these grand old gentlemen of Cessford and Littledean. It was their nature to, and they gave ready response to their excursive instincts.

“The most noted, perhaps, of these worthies, who now rest from their labours (predatory and otherwise), departed this life in a curiously tragic form close by these mouldering walls. He had a favourite bull, celebrated for its beauty, which the old gentleman was fond of showing to his guests. Clothing himself in a red dressing gown, he led it from its

stall, as often before. Alas! it did not know its owner in his hateful unwonted garment. It gored him to death, and from that day (date not known) this much-loved home was deserted, and the family migrated to Nenthorn, where 'no strife should rage, nor hostile feuds disturb their peaceful years.' As an instance how striking events are retained in memorial perpetuity, I found on coming to Maxton, some 35 years ago, that the village children used to scare each other in the gloaming by crying out, 'There's the Little-dean bull,' and on enquiry I was told the tradition I have related.

"The last of the race of the Kers was the gallant old general who contested the dukedom of Roxburghe and the estates so fatally in 1812. Dear, kind-hearted, headstrong soul! He refused the offer of £100,000 for his chance, and even declined the proposal that the successful claimant should pay his rival's expenses. The suit was tried in the House of Lords, and by the casting vote of the Chancellor it resulted in favour of the present family. The general died in 1833, and sleeps among his forbears in a vault in Maxton Churchyard—a worn-out, heart-broken, fine old soldier. We shall see his memorial tablet if we visit the church, placed there by revering, distant relatives a few years ago."

After Mr Graham had read his paper, the Secretary recited a curious legend connected with the Tower, taken from Henderson's "Folk Lore of the Northern Counties." It was to the effect that the Tower was at one time haunted by the spirit of an old lady—once its mistress—who had amassed so much money by extortion that she could not rest in her grave. Ultimately she appeared to a servant of her successor, to whom she revealed its hiding place, and directed that it should be divided between the laird and his family, the servant, and the parishioners of Maxton.

A full account of Littledean Tower, with views of the structure in its present ruined state, will be found in McGibbon & Ross's "Domestic and Castellated Architecture of Scotland," Vol. III., p. 351.

From this point the party drove back direct to Newtown, time not permitting a visit to Maxton Parish Church, which

it had been hoped might be undertaken. Mr Graham's Notes on the Church, as well as Mr Richardson's Geological Notes on the district embraced in the day's excursion—both of which were read after tea in the Station Hotel at Newtown—will be found in the Appendices to this Report. The thanks of the Club were tendered to both gentlemen by the President, for the invaluable services they had rendered in connection with the day's proceedings.

The following members and friends were present at tea, or in the course of the day:—Mr James Smail, President; Miss Merlin Milly Smail and Mr Elliot R. Smail, Edinburgh (guests); Rev. George Gunn, Secretary; Captain Norman, Berwick; Mr A. H. Evans, Cambridge; Master J. H. Evans (guest); Mr W. T. Hindmarsh, Alnwick; Dr J. A. Voelcker, London; Captain Forbes, Berwick; Dr Stuart, Chirnside; Mr John W. Quin, Galashiels; Mr John Turnbull, Royal Bank, Galashiels; Mr B. Morton, Sunderland; Professor J. C. A. Steggall, Dundee (guest); Rev. John Walker, Whalton Rectory; Mr M. le N. Fleming Struthers (guest); Rev. J. F. Leishman, Kelso; Dr Hunter, Galashiels; Professor A. S. Pringle Pattison, The Haining, Selkirk (guest); Mr T. Craig Brown, Selkirk; Dr Stevenson Macadam and Miss Stevenson Macadam (guest), Edinburgh; Mr Arthur Giles, Edinburgh; Mr J. A. Ferres, Edinburgh (guest); Rev. M. H. N. Graham, Maxton; Mr John Cochrane, Hilton Bush; Mr Walter Cochrane, Lynhurst (guest); Dr Hunter (guest); Mr Kenneth Cochrane, New Fann; Rev. J. G. Napier (guest); Sir George Douglas, Springwood Park; Mr Francis Lynn, Galashiels; Rev. Ambrose Jones, Stannington; Mr John Cuthbert Hume (guest); Mr and Mrs George G. Butler, Ewart Park; Mr and Mrs E. C. Goldberg (guests); Mr W. Maddan, Berwick; Dr D. F. S. Cahill, Berwick; Mr J. Lindsay Hilson, Jedburgh; Rev. Thomas Martin, Lauder; Mr Ralph Richardson, Gattonside House; Dr Stewart Stirling, Edinburgh; Rev. Dr Leishman, Linton; Mr H. Rutherford, Fairnington; Mr A. M. Dunlop, Ashkirk; Mr F. E. Rutherford, Hawick; Mr Stephenson, Chapel (3 sons); Mr D. McB. Watson, Hawick; Rev. Joseph Hunter, Cockburnspath; Mr and Mrs Henry Paton, Edinburgh; Mr George Fortune, Duns; and Rev. W. D. Herald, Duns.

APPENDIX I.

Maxton Church.—By Rev. M. H. N. Graham.

This church, or rather this venerable fragment of a large edifice, is designated in our circular "Pre-Reformation." That may mean anything in relation to years. The Reformation period is a baby time in our case, for the church was erected many centuries prior to John Knox and his iconoclastic *confreres*.

It is said to be as old as the Heptarchy, which everybody knows prevailed during the 8th century. It has passed through many transformations during these 11 centuries. It was thatched with broom as late as 1793. One precious gem at least remains, the fine Norman door at the west end. There are also a few scroll stones of unknown age stuck apparently at random into the western gable. In common with many others, Maxton Kirk was attached to Dryburgh, and was dedicated to that popular godfather, Saint Cuthbert.

It must have been, as I have said, a comparatively large edifice, for Maxton was a village of some 5000 souls—the population is now about 464—and as there was then no U.P. or Free Church to draw away the population, the worshippers would swarm beyond our present limited walls. The building must have had some architectural pretensions, for I possess what is believed to have been the capital of a Corinthian pillar, which was found embedded among rubbish about half-way down our north aisle, which aisle was built on my advent in 1866. Among other hallowed *relics* there are interred beneath the pulpit the rough, undressed stones which formed its stairway, trod for rude ages by my predecessors—*Si monumentum requiris circumspice!* Yes, but I regret I cannot gratify that curiosity unless I remove the pulpit, but, believe me, these uncouth *monumenta* are in safe and friendly custody.

One of my predecessors was the eminent Gabriel Wilson, who, with the more eminent Thomas Boston, was one of the martyr Marrow heretics in a poor *fiasco* theological controversy, which you will pardon me for not discussing. Another of my predecessors lost his head and his living amid the mazes of a millennial craze. His latest successor still retains both.

One of our treasures is the bell slung in a comparatively old belfry. It bears the inscription: "1609, Soli Deo Gloria Joan Burgensis me fecit"—nigh 300 years ago. I claim for it that, for power and tone, it is the finest country church bell I have heard, and that is not saying little. Proudly would my venerable bellringer have tolled his idol to-day, but Charles has gone where all good beadles go.

In lifting the lobby floor that runs east and west, we disinterred a number of human bones, afterwards of course preserved elsewhere. Who would have the right of sepulture there other than the heritors? Perhaps some of the heroes of Ancrum Moor, who fought in 1545, were thus honoured. If so, I hope our own "fair maid Lilliard" also had this homage paid to her (brave lass!) stumps and all!

There are two inscriptions, both sacred, on spiral stones, one in Hebrew on the south wall, and one in Latin above the north window. I will translate them for my clerical companions. *Hebrew*—Psalm LXXXIX. 15:—"Blessed are the people that know the joyful sound, Selah." 1724—Psalm xcv. 7:—"O come let us worship and bow down." This was during Gabriel Wilson's ministry. *Latin*—"Jesus only is our safety." How it came there originally I know not. To my ever generous heritors I owe the addition of the north aisle and the renovation of the interior, as well as the three harmonious large windows, which I do not despair of filling in with commemorative Scripture pieces.

We have a few interesting tombstones, singularly devoid, however, of graveyard humour, which time and weather and thoughtless pedestrians have grievously obliterated. I have, of course, had careful copies made long ago. So far as we can decipher, the oldest is of date 1642.

Communion tokens have now become a thing of the past, and therefore of much interest. Our earliest bear date 1700. I possess only *one*. [N.B.—Importunate collectors take note.] The communion cups were a gift last year from Miss Thomson, daughter of my predecessor, whose incumbency lasted 54 years. Incidentally and modestly let me tell that we were the very first in the county to introduce instrumental music, and that as far back as 1873—a bold, but never regretted, innovation.

APPENDIX II.

*Notes by Mr Ralph Richardson, F.R.S.E., F.S.A. (Scot.),
Gattonside House, on the Geological Phenomena
observed during the Club's Excursion,
on 23rd August 1899.*

(1) RIVER TERRACES.—In the map of the Geological Survey (Kelso, Sheet 25) the valley of the Tweed from Dryburgh down to Makerstoun is distinguished by no fewer than four river terraces. The oldest of these stretches along the south bank of the river from opposite Dryburgh, and curving southwards by Greycrook (170 feet) to Mainhill and Hiltons-hill (100 feet), passes to the south and east of Maxton (50 feet.) Another ancient terrace runs from near Ploughlands (50 feet) to Rutherford Mill. The more recent terraces occupy the haughland of the Tweed above and below Dryburgh. As I have ascertained by aneroid, the more ancient terraces occasionally rise between one and two hundred feet above the river, and show at how much higher a level it once flowed than it does at present. When the Tweed flowed at the level of the oldest terrace, the spur on which Lessudden (St. Boswells) now stands was, on its north-east and south sides, washed by the waters of the Tweed now in some places half a mile distant.*

There is no ground, however, for supposing that a lake occurred here, or is evidenced by such terraces, for, besides other reasons, they appear at intervals along the Tweed and all rivers. Thus, an ancient terrace stretched from Allerly and Gattonside (175 feet) to the Pavilion on the north bank of the Tweed; and from Huntly Burn (150 feet) past Abbotsford to Faldonside (50 feet) on the south bank; whilst another old terrace stretched from the south side of Gala-shiels round the Rink Hill (125 feet) to the heights above Fernielee (125 feet); and another formed the opposite bank at Raelees Yair (70 feet) and Sunderland Hall.†

* See Geological Notes by Mr Richardson in the Club's Proceedings for 1896, p. 38.

† Heights of terraces, by aneroid, above present normal level of the Tweed.

(2) SEDIMENTARY ROCKS.—East of Newtown St. Boswells, such rocks belong to the Upper Old Red Sandstone series, as testified by the discovery in them of *Holoptychius nobilissimus* by the late Mr Charles W. Peach, in June 1873, as recorded by him at page 400 of the second volume of the Transactions of the Edinburgh Geological Society. Mr Peach found this characteristic Old Red fish in sandstones in the quarry on the Black Hill of Earlston, and observes:—"Similar sandstone beds occur on both sides of the Tweed near Dryburgh, and I have no doubt that, if quarried and closely searched, similar fish-remains would be found there. These rocks belong to the Old Red Sandstone." Mr Charles W. Peach was the father of that eminent member of the Scottish Geological Survey, Mr Benjamin N. Peach, who spent several years surveying the district comprised in sheet 25 (Kelso) published in December 1879.

I may add that fragments of a specimen of *Holoptychius nobilissimus* from the Black Hill of Earlston, perhaps Mr Charles Peach's specimen, are now in the Museum of Science and Art, Edinburgh.

A little to the west of Ringley Hall, a fault occurs which brings down Porphyrite, interbedded in Calcareous Sandstones, on the Upper Old Red Sandstones, and marks the eastern boundary of the latter. The Tweed has cut its way through the Porphyritic barrier extending from Ringley Hall to the Trows ferry; but, about 1797, Sir Henry Hay Makdougall of Makerstoun caused rocks in midstream below Makerstoun to be blown up, and thus afforded a better passage for the river.

(3) IGNEOUS ROCKS.—According to Mr Benjamin Peach, Trachytic Igneous Rocks welled up through the Old Red Sandstones of this district, and formed a more or less horizontal belt, the denuded remains of which now cap the hills and give them their distinctive features. (Address to the Scottish Natural History Society's Field Meeting, at Melrose, 23rd April 1898.) The great volcanic vent of the Eildon Hills, with its solidified ash, now used as building stone; similar volcanic Agglomerate, indicating volcanic vents at the Holms, Ancrum Moor, and Down Law; the Basaltic Crags of Bemersyde, Maxton, and Craigover; with

the vast expanse of Porphyrite extending northwards and eastwards of the fault already mentioned—all attest the widespread igneous eruptions to which this locality had once been subject.

Whilst the denudation of the softer Sedimentary Strata laid bare the intrusive Felstone Micatrap forming the summits of the Eildons, the same agency exposed the Basaltic Hill known as Penielheugh, the Felstone Masses forming the White and Black Hills of Earlston, and the Porphyritic ridge crowned by Smailholm Tower. Indeed, but for the volcanic activity and denudation of the past, the frequent conjunction of crag and gorge, which imparts such romantic beauty to the scenery of this district, would not have existed at all. The geology of the Scottish Border has thus a direct connection with its literature and romance; for what, for instance, would such a district as this have been, in literature and historic annals, without its "Eildons three," its lofty Cowdenknowes, its rock-bound Bemersyde, its craggy Smailholm, its picturesque Makerstoun,—all distinctive features in the landscape, and products of those mysterious forces of Nature which have impressed upon the locality its present configuration, so renowned in Border legend, romance, and song?

SEATON DELAVAL, SAINT MARY'S ISLAND WITH ITS
LIGHTHOUSE, AND TYNEMOUTH.

THE SIXTH MEETING of the year was held on Thursday, 21st September, when over forty members and guests assembled at Seaton Delaval Station, on the Blyth and Tyne branch of the North Eastern Railway. The district selected had never before been visited by the Club, and is one very little known even to the Northumbrian members. Through the good offices of Canon Walker, permission had been obtained from Lord Hastings' agent to inspect Seaton Delaval Hall, with its adjuncts and grounds, in the fullest manner. The fine Norman domestic chapel adjacent to the hall, recently given to the Church of England by Lord Hastings, and now a parish church, was also thrown open; as was also the mausoleum (designed after a Greek temple) begun by the last Lord Delaval to entomb the remains of his only son, but never completed. The grounds have been embellished after the Italian style, with straight avenues of trees planted in 1717, by lofty obelisks, around which local tradition has gathered many ridiculous tales of the Delaval witch, and mythological figures of stone or plaster or lead. Mr Benjamin Morton, of the Trinity House service, and one of our members, who conducted the party, has furnished the following account of this part of the day's proceedings, and a still more full and valuable account of the lighthouse on St. Mary's or Bates' Island.

SEATON DELAVAL AND SAINT MARY'S ISLAND LIGHTHOUSE.—

By Benjamin Morton, Sunderland.

The district selected for the Club's excursion was one of very different scenery and surroundings to those in which it has been accustomed to meet, and although the landscape may fall short in beauty and variety to many scenes we have explored, yet it is of equal interest, and the deeds enacted here go as far back in English history as those which have occurred in the castles, towers, and localities, the field of the Club's previous visits.

Situated in the south-east corner of Northumberland, surrounded on the one side by collieries, and lying midway between the important ports of the Tyne and Blyth, the district is compensated, for its tame outline, by mineral wealth, which contributes so largely to the commercial prosperity of England.

Hamon de Laval, of the province of Maine,* one of the companions of the Conqueror who distinguished themselves in the subjugation of England, commenced the building of a castle at Seaton Delaval for his own protection and for that of the lands which had been granted to him in reward for his services.

The site of the ancient castle was a little to the south-west of the present structure, but its walls have been entirely razed, its ditches levelled, and nothing is left of the first abode of the family except the chapel. This venerable building is a pure and perfect specimen of Norman architecture, and seems, except in its roof, to have undergone very few alterations.† Above the west door, within and without, are six shields, charged with the arms‡ of the

* cf. Planché, *The Conqueror and his Companions*.

† For an architectural description of the chapel see *Notes on the Chapel of Our Lady, Seaton Delaval*, by W. S. Hicks—*Arch. Æl.*, Vol. xii., p. 229; and for a description of the monuments, as they appeared about 1840, see Howitt's *Visits to Remarkable Places* (ed. 1842) Second Series, p. 373.

‡ These shields armorial are critically examined by Mr S. S. Carr in the *Proceedings* of the Newcastle Society of Antiquaries, Vol. ix., p. 179.

Delavals and allied families. The arches at the entrance into the chancel and above the Holy Table are supported by short columns, with plain heavy capitals, and wrought with double tiers of zig-zag mouldings. The walls are decorated with armour, tattered banners, and escutcheons. There are also two monuments, one of which represents a recumbent figure of a knight in armour, resting upon his left arm, his shield plain; and the other a recumbent figure of a female, with her hands elevated. Each figure has a dog at its feet, the usual emblem of faithfulness.

The hall at Seaton Delaval was built about 170 years ago by Admiral Delaval, after a design by Sir John Vanbrugh, who was also the architect of Blenheim Palace, and many other seats of the English nobility.* The porticoes, the hall, and the saloon, are the chief features of the building. The offices in the lowest storey are all vaulted with stone. The wings project at right angles to the north front of the house, and they have fine arcades along the whole length of their inner fronts; they contain the kitchens on the west side, and very noble stables on the east. The large addition to the east end of the main building has broken the uniformity of the original design, though it has been executed after Vanbrugh's style.† This building has been very unfortunate, for the west wing was destroyed by fire in 1752, and subsequently rebuilt. The central hall was

* "By the sea, near Seaton Delaval, so called from the town or villa by the sea, and the local name of its ancient baronial possessors, the Delavals, is a freestone, accounted excellent both for colour and duration, of a whitish-brown, with splendid micaceous particles. That grand structure Seaton Delaval, was built of it." . . . —Wallis, *Northumberland*, Vol. 1., p. 57.

† Sir George Douglas identifies Carne Hall in Mr Ernest Rhys' story, *The Fiddler of Carne*, with Seaton Delaval.—"A palace out of place! A more stately and august design you shall hardly find among all the great houses of Inigo Jones, that master of his art, who designed it. A lofty pile served as its centre, with an array of columns, exquisitely set, divinely portioned, and approached by three simultaneous flights of steps, fit to give a generous entrance to troops and battalions of guests. The immense portico easily received these steps, and opened palatial doors to them."—Ernest Rhys, *The Fiddler of Carne*, p. 120.

destroyed in the same manner in January 1822, and has not been restored.*

The family of Delaval, related to the Norman Conqueror by the marriage of Guido or Guy de la Val to Dionysia, William's niece, obtained large grants of manors and lands in Northumberland and other parts of England. Gilbert Delaval took up arms against King John, and was with the barons at Stamford at Easter 1215, but was not, as has been sometimes stated, one of the twenty-five barons who were sworn to see the due execution and observance of Magna Charta and the Charta de Foresta.†

Sir Ralph Delaval, a cadet of the family, and a distinguished naval officer, fought gallantly at La Hogue, rose to be Vice-Admiral of the Red, and was buried at Westminster Abbey. It was more particularly during the time of Sir Francis Blake Delaval (died 7th August 1771), and his brother, Sir John Delaval (who in 1783 was raised to the peerage of Ireland), that the family acquired their reputation for courtly splendour, profuse living, and open-house jollity. Sir Francis Delaval having determined to enter Parliament, went down to Andover,‡ which then returned two members to the House. An utter stranger to the place, he obtained his election by an original manoeuvre. On the nomination day he discharged, from a culverin, five hundred guineas over the heads of the multitude assembled round the hustings, which soon determined the choice of the free and independent voters, and he was elected as one of their representatives. Other singular stories are told of his subsequent elections, one of

* For fuller description of the hall see Wallis, *Antiquities of Northumberland*, Vol. II., p. 276; Hutchinson, *View of Northumberland* (ed. 1778) Vol. II., pp. 330-333; and Mackenzie, *Northumberland*, Vol. II., pp. 418-420.

† For an extensive, and in every way admirable, account of the family history and genealogy of the family of Delaval see the Rev. E. H. Adamson's *Attempt to trace the Delavals from the time of the Norman Conquest to the present day*, printed in *Archæologia Æliana*, Vol. XII., pp. 215-228. The results of more recent investigations into this history of the Delaval family may be found in the Rev. R. E. G. Cole's *History of the Parish of Doddington*, Lincolnshire.

‡ cf. Howitt's *Visits to Remarkable Places*, Second Series, pp. 367-371.

which is related by Edgeworth in his "Memoirs" respecting the contest for Andover at the general election in 1768, when Sir J. B. Griffin was returned at the head of the poll with seventeen votes; the second member was B. Lethieulier, with fifteen votes; and the defeated candidate was Sir F. B. Delaval, who only polled seven. Sir Francis, moreover, found himself at loggerheads with his attorney, an acute practitioner, whose bill had been running for years; although considerable sums of money had been paid on account, a prodigious balance was still claimed as unsettled, which Sir Francis disputed at law. When the case came before the Court of King's Bench, in an exorbitant bill of charges, the following item excited amusement:—"To being thrown out of the George Inn, Andover; to my leg being thereby broken; to the surgeon's bill; to loss of time and business—all in the service of Sir F. B. Delaval—£500."

This charge requires explanation. It appeared that the law agent, by way of promoting the interests of his principal in the borough, had sought to propitiate the mayor and corporation—important potentates at electioneering times—in whose hands was vested so much of the local influence. A pretext being necessary to decoy these worthies to a banquet, where they might be conciliated, the attorney sent cards of invitation to the mayor and corporation in the name of the colonel and officers of a regiment in the town; and at the same time invited the colonel and staff, in the name of the mayor and corporation, to dine and drink the king's health on his birthday—an ingenious ruse—but the diplomatist had literally "reckoned without his host." The two parties met, were mutually courteous, ate a good dinner, toasted His Majesty's health, and proceeded to other post-prandial compliments before breaking up. Then came the acknowledgements. The commanding officer of the regiment made a handsome speech to Mr Mayor, thanking him for his hospitable invitation and entertainment. "No, Colonel," replied the mayor, "it is to you that thanks are due, by me and my brother aldermen, for your generous treat to us." The colonel replied with as much warmth as good breeding would allow. The mayor retorted in downright anger, vowing that he would not be choused by the bravest colonel

in His Majesty's service. "Mr Mayor," said the colonel, "there is no necessity for displaying any vulgar passion on this occasion, permit me to show you that I have here your obliging card of invitation." "Nay, Mr Colonel, there is no opportunity for bantering, here is your card." The cards were produced simultaneously. Upon examining the invitations, it was observed that, notwithstanding an attempt to disguise the hand, both cards were written by some person who had designed to hoax them all. The eye of each discomfited guest turned spontaneously upon the attorney, who had found it necessary to be present to flatter the aldermen; his impudence suddenly gave way; he faltered and betrayed himself so fully by his confusion, that, as an act of summary justice, the colonel threw him out of the window. Hence the item debited to Sir F. B. Delaval's account.

When the party visited the stables, Canon Walker told the following story in regard to the family:—

"Sir F. B. Delaval invited a large and brilliant company to an entertainment at Seaton Delaval. The guests assembled, and waited long, and seeing no signs of preparation, began to think themselves the victims of one of Sir Francis's jokes. At last doors were thrown open, and they were ushered, not into the dining room, but into the stable, the great vaulted hall (62 feet by 40 feet) which occupied the eastern wing. Here they found all the usual stable fittings removed, and a feast laid out in a brilliantly lighted and decorated hall."*

Edward Hussey Delaval died without issue, on 14th August 1814, aged 85 years, and was buried in Westminster Abbey. At his decease the entailed estates passed to his nephew, Sir Jacob Astley, Bart., of Melton Constable, Norfolk, and they are now held by Lord Hastings, who occasionally resides at Seaton Delaval.

The harbour of Seaton Sluice, constructed at great expense by Sir Ralph Delaval in the reign of Charles II., was greatly

* On the authority of Lady Mexborough (daughter of Francis Blake Delaval) see J. Robinson, *The Delaval Papers*, privately printed, cap. ix., pp. 83-84. This little book (216 pages) contains a great number of family letters printed from the originals, found in 1886 in a disused building at Seaton Sluice.

improved by Lord Delaval, who cut a passage through the solid rock 900 feet long, 54 feet deep, and 30 feet wide.* Up to about the end of the last century considerable quantities of coal and bottles were exported. But the place has long since fallen into decay, owing to the improvements and increased facilities afforded by the adjoining ports of the Tyne and Blyth. It is stated that Sir Walter Scott borrowed his description of the port of Ellangowan, in "Guy Mannering," from the port of Seaton.† Sir Walter also alludes to the hall in "Marmion,"‡ in the lines—

And now the vessel skirts the strand
Of mountainous Northumberland.

.

They marked amidst her trees the hall
Of lofty Seaton Delaval—

although the hall had not replaced the ancient castle at the period at which "Marmion," is laid.

The Monk's Stone, near to Tynemouth, is nothing more than the remains of an ancient cross, upon the pedestal of which was this idle inscription:—"O Horror to Kill a man for a Pig's Head." This motto Mr Grose, with considerable hesitation, attributes to a liquorish monk of the cell of Tynemouth, who, strolling to Seaton Delaval, cut off a pig's head from the spit, and made the best of his way homeward with it. "Mr Delaval, on his return from

* cf. *Arch. Æl.*, Vol. XII., pp. 221 and 227.

† "They . . . found a very small harbour, partly formed by nature, partly by the indefatigable labour of the ancient inhabitants of the castle, who . . . had found it essential for the protection of their boats and small craft, though it could not receive vessels of any burden. The two points of rock, which formed the access, approached each other so nearly that only one vessel could enter at a time. . . . A ledge of rock had, by the assistance of the chisel and pickaxe, been formed into a sort of quay. The rock was of extremely hard consistence, and the task so difficult, that . . . a labourer who wrought at the work might in the evening have carried home in his bonnet all the shivers which he had struck from the mass in the course of the day."—Scott, *Guy Mannering*, cap. 40.

‡ *Marmion*, canto II., ¶ VIII.

hunting, enraged at this audacity, remounted his horse, and pursuing the offender, overtook him at this place, and so belaboured him with his hunting whip that his death, which happened within a year and a day, was laid to his charge."*

The village of Whitley was held by the Prior of Tynemouth, by the service of making, at the tower there, an annual feast, called *le conveyes*, to the members of the monastery and certain of its dependents, on Innocents' Day and the day after. As horses and dogs were included in the number of the guests, it is probable that hunting formed part of the amusement.†

St. Mary's Lighthouse, one of the latest and most important lighthouses on the north-east coast, was first used on the night of the 31st August 1898. The tower is circular, 120 feet high, the character of the light being two flashes in quick succession every 20 seconds. The intensity of the light in thick weather is 121,500 candle power, and in clear weather 81,000 candle power, the light being produced by a five-wick concentric burner, surrounded by four lenses, each of which has a vertical angle of 80 degrees, and a horizontal angle of 90 degrees. The light apparatus is of novel and original construction. At the present time there is only one other of a similar character in the English lighthouse service, at Lundy Island, Bristol Channel. The weight of the revolving apparatus is nearly four tons; it floats in mercury, contained in a circular trough, the quantity required for this purpose being only about eight or nine cwt. The advantages gained by this arrangement are the reduction of friction to a minimum, less driving power required, and greater steadiness of motion. Higher speed is also obtained, one revolution being completed in 40 seconds, during which period four flashes are produced, the duration of the flash (which is of great intensity) being only about two thirds of a second.

* Mackenzie, *Northumberland*, Vol. II., p. 460; but cf. Grose, *Antiquities of England and Wales*, Vol. IV., p. 127, where there is a plate after Hooper (1785.)

† Mackenzie, *Northumberland*, Vol. II., p. 458.

The illuminant is paraffin oil, which is stored in tanks at the bottom of the tower, and thence pumped up into the cisterns in the service room; from there the oil is forced through the burner by means of two hydraulic pumps, the object being to maintain a constant flow of oil. When the light is burning at full power the quantity of oil passing through the lamp is about 20 gallons per hour, three-quarters of a gallon only being consumed. The burners are perforated about $1\frac{1}{4}$ inches below the burning level of the oil, through which percolates the surplus oil, returning to the cisterns in the service room, thus keeping the burner and oil perfectly cool, as well as the wicks thoroughly and regularly supplied with oil.

This description of light is of recent introduction into this country. Several lighthouses, however, on the French coast are illuminated on this principle. The duration of the flash is exceedingly short; but from the intensity of its power, owing to the size of the lenses, it can be readily "picked up" at sea, and seen at a greater distance than the slower revolving lights which have hitherto been in use.

It may not be uninteresting to mention that the lighthouse is built on the site of an old chapel attached to Tynemouth Priory. from which, it is stated, the monks exhibited a light to guide mariners navigating this dangerous portion of the coast. What a contrast is there between this powerful light and the feeble effort of the monks, who are, however, to be admired for using what their limited means and knowledge allowed!

Although this is neither the time nor the place to enter into a description of lighthouse illumination, it is not possible to leave the subject without making a few observations. There is a continuous history of lighthouses from the time when the Pharos was built at Alexandria, about 300 years before the Christian era, a description of which is given by Pliny. That tower was about 500 feet high, and is stated to have cost in our money about £180,000, a sum which would stagger the public authorities of to-day, if expended upon any single lighthouse. Yet, magnificent as that building must have been, it was only lighted by means of a wood fire, and in clear weather could be seen for about 30 miles.

From that time down to the close of the last century, or for a period of 2100 years, not one single improvement was introduced. A lighthouse has a double duty to perform; not only does it warn the sailor of danger, but it enables him to find his position; the latter aspect being quite as important as the former, each lighthouse having a distinctive character. This consideration made coal and wood fires useless, and often led to great disasters, through the confounding of one light with another. Many illustrations of the inadequacy of such lights, and the dangers attending them, could be given, but one will be sufficient for our purpose, in the fate of His Majesty's ships *Nympha* and *Pallas*, which were wrecked in the year 1810. Overtaken in the North Sea by a heavy easterly gale, they were making for the Firth of Forth for shelter, and unfortunately mistook the light from a limekiln near Dunbar for the lighthouse on May Island. They did not find out their error until they were embayed, and it was too late to avoid being driven on shore. Happily, out of 600 men on board the vessels, only nine were drowned; but the king lost the services of nine gallant seamen, and vessels to the value of £100,000. It may be mentioned that the Scottish Lighthouse Commissioners have now introduced at the lighthouse on the May an electric light of 6,000,000 candle power, as well as a fog signal station.

The writer has in his possession an engraving, printed about 130 years ago, of the Tynemouth lighthouse, which was taken down last year, after St. Mary's came into use. The tower is shown as it existed till its history ended, except that in the place of the modern lantern there is an open grate with a coal fire. The coal fire which continued as late as the year 1825 (if the writer's memory be correct) at St. Bees, Cumberland, is supposed to be the last coal fire exhibited in Great Britain.

An illustration shall be given of the great improvements made during the present century, and the benefits the lighthouse service have conferred, not only in the interests of navigation, but to humanity at large, by the facilities offered for the extension of commerce, and the interchange of the products of the world.

The Darling family has been associated with the lighthouse service for five generations to the writer's knowledge. He knew intimately William Darling, the father of Grace Darling, a remarkable man, and one probably known to many of the older members of the Club. He was a man of great intelligence, far above his station in life, and in appearance one of Nature's nobility. He told the writer that, when a lad, he assisted his father in carrying up the coals to the lighthouse on the Farne Islands. During his early manhood the catoptric or reflector system of lighthouse illumination was introduced. His son, William Brookes Darling, was for many years principal keeper at Coquet lighthouse, where the dioptric or lens system of condensing light was adopted in the year 1841. The son of this keeper was for many years assistant keeper at the neighbouring lighthouse at Souter Point, where the electric light was first permanently established in the lighthouse service of this country, the flash of the revolving light being equal to 800,000 candle power. From these statements may be seen the progress which has been made in three generations of one family, the more remarkable when it is remembered that stagnation existed for over 2000 years, during which there were no improvements.

What better proof can be desired that the lighthouse service of this country is in thorough touch with the progressive, enquiring, and scientific spirit which so distinguishes the Victorian era, and makes the 19th century, now rapidly drawing to a close, remarkable in the history of the world, for its discoveries, wresting from Nature her secrets and powers, and making them subservient to the wants, the well-being, and the happiness of the world at large.*

After partaking of some refreshment, provided at St. Mary's Island, the drive was resumed. Time did not permit of more than a passing glimpse of the conformation of rocks at Whitley, the little fishing harbour, and the

* The writer is indebted for the information regarding the Delaval family to Mackenzie's *History of Northumberland*, and an article that appeared in the *Monthly Chronicle of North Country Lore and Legend*, in the month of December 1887.

old mansion of the Doves, at Cullercoats. At Tynemouth the party was conducted to the ruins of the ancient priory church, the history of which was sketched by Canon Hicks, the vicar of the parish of Tynemouth Priory, and by Canon Walker, to both of whom, as to Mr Morton, the thanks of the Club were due, and were subsequently acknowledged.

The following dined with the President, Mr James Smail, at the Bath Hotel:—Rev. George Gunn (Secretary), Rev. Edward Arkless, Mr John Bolam, Mr and Mrs G. G. Butler, Mr John Cairns, Mr S. S. Carr, Sir George Douglas, Bart., Mr M. H. Dand, Hon. and Rev. W. Ellis, Rev. Jas. Fairbrother, Mr Giles, Mr J. G. Goodchild, Rev. Dr Paul, Mr G. C. Heslop, Mr and Mrs Robert Huggup, Mr R. C. Hedley, Mr John Hogg, Mr J. Crawford Hodgson, Rev. Ambrose Jones, Mr W. H. Johnson, Mr and Mrs F. Lynn, Rev. Thomas Leishman, D.D., Mr B. Morton, Colonel Milne Home, Captain Norman, R.N., Mr A. Riddle, Mr Ralph Richardson, Mr J. Reed, Mr John Roscamp, Mr J. A. Somervail, Mr Adam Scott, Mr and Mrs Edward Thew, Mr George H. Thompson, Canon Walker, Mr E. Willoby, and others.

BERWICK.—By the Secretary.

THE ANNUAL MEETING for the year 1899 was held as usual in the Museum, at Berwick, on Thursday, 12th October.

It had been arranged that, prior to the business meeting, Captain Norman and Mr Goodchild should conduct those members, who were geologically inclined, to the Burgess' Cove, the chief cave in the vicinity of Berwick; but, to the regret of everyone, the rains of the morning made it prudent to forego this visit to the rocks. In the circumstances the party agreed to meet at the Museum at twelve o'clock, where Captain Norman read the paper he had prepared upon the geology of the coast, and which will be found in the Proceedings.

The business meeting followed at one o'clock, the following members being present:—Mr James Smail, F.S.A. (Scot.), President; Rev. George Gunn, Secretary; Mr George Bolam, Treasurer; Sir Gainsford Bruce, Captain Norman, R.N., Colonel Milne Home, Major Macpherson, Rev. David Paul, LL.D., Rev. Evan Rutter, Messrs W. B. Boyd, Charles Stuart, M.D., G. P. Hughes, John Ferguson, F.S.A. (Scot.), Charles B. P. Bosanquet, J. A. Somervail, David Hume, Elliot R. Smail, Henry Paton, T. B. Short, David Herriot, John Dunlop, William Weatherhead, John Barr, William Wilson, James Stevenson, and G. D. Cruse, Croydon (guest.)

The President mentioned that apologies for absence had been received from ten members, and then proceeded to deliver his Address, at the close of which, in resigning office, he nominated Mr A. H. Evans, M.A., of Cambridge, as next year's President. On the motion of the Rev. Dr Paul, the President was cordially thanked for the discharge of his duties in the chair throughout the year, and for his Address.

The Reports of the Meetings were taken as read, and the following exhibits were laid on the table:—A drawing by Mr Tom Scott, A.R.S.A., of a fine Bronze Spear-head, which had been found at Rutherford, Roxburghshire, and a reproduction of which forms one of the illustrations in the present number of the Proceedings. A series of photographs illustrating a Cist, showing the position of the bones in it, discovered at Belvidere, Hawick. A slab of polished wood of the Douglas Pine, showing its fine texture; and a photograph of ancient Ripple-marks on a stone, from the banks of the Whitadder, at Willie's Hole, Broomdyke's Haugh, by Mr James A. Somervail.

The Treasurer made his annual financial statement, and his accounts were duly audited by Mr Elliot R. Smail.

The amount of the subscription for the year was fixed at 10s., and the following new members were elected:—

Robert Blair, F.S.A., Harton Lodge, South Shields.

George Hartley Ballard, Grammar School, Berwick.

Walter Cochrane, Lynhurst, Galashiels.

Rev. A. E. Cooper, B.A., Staunington, Cramlington.

Adam Darling, Bondington, Berwick.

Thomas Grahame, The Avenue, Berwick.

John Grey, South Togston, Acklington.

John Carlyle Johnstone, M.D., The Hermitage, Melrose.

Capt. Wm. Hy. Stopford Heron Maxwell, Muirhouselaw, Maxton, St. Boswells.

George Fraser McNee, 16 Chambers Street, Edinburgh.

James Millar, Solicitor, Duns, N.B.

Ebenezer Beattie Mercer, Manufacturer, Stow.

Rev. Thomas Marjoribanks, B.D., The Manse, Houndwood.

James Romanes, Harewood Glen, Selkirk.

George Rankin, W.S., Lauder.

Robert Charles Campbell Renton, Mordington, Berwick.

Elliot Redford Smail, 7 Bruntsfield Crescent, Edinburgh.

James Veitch, Inchbonny, Jedburgh.

Andrew Whitlie, Commercial Bank of Scotland, 62 Lombard Street, London.

Thomas Young, Banker, Innerleithen.

The following dates and places of meeting for 1900 were agreed to, subject to any necessary alteration by the officials of the Club:—

Wednesday, 6th June.—Alnwick Castle and Parks.

Wednesday, 27th June.—Beal, for Kylvie Crags, or Holy Island.

Thursday, 19th July.—Berwick and Burnmouth.

Wednesday, 29th August.—Aberlady and Gullane Links.

Wednesday, 26th September.—Cockburnspath, for Aikengall.

Thursday, 11th October.—Berwick, for Annual Meeting.

Colonel Milne Home gave in a report by the Committee on the Memorial Window to the late Dr Hardy, and it was stated that the window would be finished during the spring, and that members would then be invited to see it.

The Secretary read the report of Mr Hughes, the Club's Delegate to the meeting of the British Association at Dover, and Mr Hughes received the thanks of the Club for his attendance, and was re-appointed Delegate to next year's meeting at Bradford.

This concluded the business, and members subsequently dined together at the King's Arms Hotel.

As in former years, The Anchorage, the residence of Mrs Barwell Carter, in Woolmarket, was thrown open to the Club, and the customary kindly welcome was extended to all who called to examine the numerous relics of the late Dr George Johnston in her possession. Members had here also the pleasure of renewing their acquaintance with Miss Dickinson of Norham, who had as usual brought with her a large selection of her beautiful drawings of native plants for exhibition.

Monstrosity in the Crab. By GEORGE BOLAM, F.Z.S.

(PLATE I.)

THE figure on Plate I. is reproduced from a water colour sketch—by Mr William Wallace, junr.—which I had the pleasure of laying upon the table at the last Berwick meeting. It very faithfully represents a monstrosity in the toe of a Common Edible Crab (*Cancer pagurus*) caught in Berwick Bay, in April 1893.

I purchased the specimen, and forwarded it to Mr W. Bateson of Cambridge, who expressed much interest in it. The drawing gives so good an idea of the toe that it is scarcely necessary further to describe it, but it may be added that the crab was also possessed of three eyes, the extra one being placed slightly above the ordinary left eye. The crab had been boiled before it came into my possession, so that it was not possible to tell whether or no all the eyes had been capable of use during life, but they each appeared to be equally developed.

On 14th April 1898 I saw a crab, alive, in a shop in Berwick, which had one of its great toes somewhat similarly mal-formed, there being three, instead of the usual pair of pincers, two of them being jointed.

In the Hancock Museum, at Newcastle-on-Tyne, there are one or two dried examples of similar monstrous developments in the toes of the crab.



MONSTROSITY IN A CRAB.



The Geology of the Berwick Coast Line. By COMMANDER
F. M. NORMAN, R.N.

[Read at the Berwick Meeting of the Club, on 12th
October 1899.*]

THE exigencies of time confine me to the very briefest and crudest outline of our subject. The coast line which we now view, apart from its natural beauty and attractiveness, is one of great geological interest, because, on and about it, several geological systems are represented; and because, besides, the results of a great geological or terrestrial catastrophe are clearly evidenced. Indeed, I know of no locality where so many leading features are comprised within so limited an area.

The geological systems, or eras, which are represented, are the Silurian, the Old Red Sandstone, the Carboniferous, the Glacial, and Intrusive Igneous Rocks. Had we but more time at our disposal, I could conduct you to all of these, and I hope that at some future meeting, either sectional or general, opportunity will be afforded of studying, and of explaining to our geologically inclined members, a little more about this most instructive locality than we can possibly accomplish this morning.

We stand now on, and confining our gaze to the coast line, we have before us the lower strata of the Carboniferous limestone, which means some of the oldest and lowest beds of the second, first formed, or lower division of the great carboniferous or coal producing system. The nearer we travel to Newcastle, the higher we rise in that system, gradually arriving by an ascending series of beds as we approach the smoky metropolis of Northumberland, on the

* The reading of this paper was intended to have taken place upon the rocks near "the Burgess' Cove," had the weather permitted.

coal measures proper, which may be said to be typically represented at historic Wallsend. Please understand that when we speak of the carboniferous limestone in a general way, of such and such a town or place being situated on it, the whole series is signified, which comprehends alternating strata of sandstone, limestone, shale, and coal. Thus, a man's property might be described as "on the carboniferous limestone" without, in reality, any limestone being accessible from it at all. Now, along our coast here, we have the carboniferous limestone in its typical aspect; namely, limestone of different degrees of texture and purity, with characteristic fossils, of which the most noticeable are the coralline *Lithostrotion junceum* (here is a specimen), and *Productus giganteus*, a bivalve, which will be laid on the Museum table at our meeting. The limestone varies exceedingly in quality, but the purest is quarried at the Scremerston Lime-works, whose smoke is now visible, which is said to contain 95 per cent. of carbonate of lime.

The sandstones of the series are white, yellow, pink, or red—chiefly reddish—but here I may remark that because a sandstone is old and red, it by no means follows that it belongs to the "Old Red," as the Old Red Sandstone is familiarly called. That which will come under notice to-day, as we walk along, belongs to the carboniferous limestone series, much of it exhibiting, in a marked and beautiful degree, the effects of weathering, and of what is called "false bedding"; that means where the layers lie at a different angle to those beneath them in the same block, showing an alteration in the course, depth, and conditions of the river or current during deposition. The walls of Berwick are entirely built of local limestone of good quality, very durable and hard to work, except here and there where sandstone has been used for repairs.

Now, as regards coal, we have represented two seams, or rather aggregations of seams. First, the Lamberton coal,

some unimportant beds which are laid bare here and there from Marshall Meadows northwards, and which were formerly, though unprofitably, worked. Travellers by rail must often have noticed, about $2\frac{3}{4}$ miles from Berwick, between the line and the sea, the tall shaft which marks the site of the old coal pit. Secondly, and, of course, the only important ones, are the Scremerston coal pits, which, in the geological scheme, lie below the Lamberton. These coals, though not of first-rate quality, are interesting, because they represent about the lowest, and therefore oldest, coal in our land.

But now I must say a few words in explanation of my reference to a geological catastrophe. If we ramble along the coast from Berwick to Burnmouth, we shall notice nothing but lower carboniferous formations during the whole of our walk. We shall observe limestones, sandstones, shales, thin layers of coal, with here and there a trace of igneous rock, which has been injected in a white hot fluid state among the sedimentary beds at some time. But if we direct our steps inland, we quickly find ourselves upon a totally different sort of rock. At Burnmouth, indeed, almost immediately, we come, in fact, upon Silurian "greywacké" (here is a specimen), of which the rising land on the north of Berwick, the whole of the Lammermuirs, and much of the intervening tract, is composed, and on which the railway from Berwick to Cockburnspath principally lies. If you glance out of the railway carriage just before you enter, and just after you leave Burnmouth Station, you see at once, close to you, excellent and unmistakeable sections of Silurian; but if you alight and walk down the steep brae to the shore, at that romantic little fishing village, lo! the Silurian has vanished, and you are surrounded by and tread upon different rock altogether—the limestones and sandstones, in fact, of the lowest carboniferous, which continue all the way to the mouth of the Tweed.

Now, the most elementary student of geology will at once

notice something remarkable here. He will ask how it is that the carboniferous rocks, which are much later and newer than the Silurian, and therefore ought to overlie them, are here actually beneath them. The explanation is "a fault"; that is, at some very remote period, during some tremendous local convulsion of the earth's crust, the whole of the carboniferous strata, from Burnmouth to Berwick nearly, were dislocated, slipped, or faulted down below the Silurian. Indeed, so clearly is this the case that the division between the two sorts of rock—the "line of fault" as it is called—can in many places be clearly traced. Unless all that is accepted, the geology of this part of the coast will be a permanent puzzle; and what complicates that more is that, just as in our social or municipal system we find "wheels within wheels," so here we find "faults within faults," there being, besides the principal, main one, included within it several minor or secondary faults, which are most distracting and annoying, and seem to have been put there on purpose to puzzle and vex the geological tyro. For instance, the banks of Dodds's Well Rifle Range, or Burgess' Cove Bay, are due to a secondary fault, of which the line can be seen at either end. But our student will want to know something more. He will say—When I get up to and beyond the rail, and wander about Halidon Hill and Lamberton, I find nothing but Silurian, unmistakeable metamorphic Silurian, which looks like what it is—baked sediment. What has become of all that vast accumulation, hundreds of feet at the least, of sedimentary strata, which must have covered this Silurian; I mean the old red and carboniferous systems, so much of which I still find to the north and south? The answer this time is: Denudation. They have been washed away by water and ice long ages ago, though little bits have been left here and there, which show that it must have been so. Coal is found lingering on the sides of Cheviot. At Jedburgh is an old coal pit

on a hill, and between this place and Burnmouth I could show you, not far off, at least three places where the old red conglomerate sticks yet to the Silurian. Denudation has been a most mighty agent in reducing and moulding the surface of the earth as we have it, a fact which is now accepted, but until comparatively recent years was not sufficiently understood.

I must now say a few words about the intrusive basaltic and the glacial era which I mentioned. Illustrations of both are not far to seek. There, on the southern horizon, we catch sight of the Farnes, with a glimpse, on a clear day, of Grace Darling's famous lighthouse. Nearer, the castles of Bamburgh and Holy Island are prominent objects. All those places, and more which I cannot stop to enumerate, are, or rest upon those intrusive igneous rocks which are well-known phenomena all over Borderland. The effects of a glacial era, when that land was covered with a thick, enormously thick, blanket of ice, are seen, too, in the Till, Drift, or Boulder clay, which, in various degrees of thickness, is a familiar object to everyone, though everyone may not be aware of its origin. I walked up the Bowmont valley above Yetholm the other day, for a few miles, and marked how the modest little stream, though formerly a large river, with intervening lakes, had eaten its way down through the boulder clay. But we need not go so far as that for an example, for we stand on it; it is all around us; yon promontory, as you see, is capped with many feet of it; every river or burn side brings it into view. It is, so to speak, geological flour ground in the glacial mill. The glacial era was the latest geological era. As the ice sheet and the glaciers slid along in their movement towards the sea, they ground up the surface on which they moved into powder of every degree of consistence, mixed with stones of every sort and size. This, though it may be, and generally is, perfectly dry, is boulder clay.

The cave which we visit to-day is called the Burgesses' Cove, because it is situated on the property of the Freemen of Berwick. Formerly, I am informed, it was used by them as a convenient retreat for discussion of electioneering matters, and for the adjustment of certain claims connected with elections, which demanded secrecy and privacy; but under existing conditions the cave is no longer necessary for such purposes. Othello's occupation's gone. A few years ago a schoolboy from the south, who was visiting me, asked, "Got any caves here?" "Oh, yes, we have." "Then you have smugglers, of course?" "No," I answered, "we have no smugglers." "No smugglers!" echoed my youthful interrogator, in a tone of scornful surprise, as if he were convicting me of being in the possession of caves under false pretences; "no smugglers! What do you do with your caves, then?" I was obliged sorrowfully to confess that, except as places of resort for the curious, our caves are at present without occupation. Hollowed out in the course of centuries by the continuous action of the relentless sea, they have no doubt been the refuge, in bygone times, of many a smuggler; but now, except we join with our juvenile friends fresh from the perusal of stirring tales of adventure, in lamenting the degeneracy of the age which leaves their recesses tenantless, we shall find, beyond their shape, little inside to arrest attention, except numerous old initials and dates, of which the oldest I have traced are 1703 and 1709, and perhaps 16— something; though outside, we can notice the fantastic weathering and so forth. And when we consider that all these and like rocks are made up of grains of quartz, which were, age after age, slowly worn away from still older rocks by the action of the sea, consolidated beneath its surface, and raised up to form dry land, we may obtain some glimmering idea, faint though it be, of the vast extent of what is known as geological time.

Entomological Notes from Galashiels during 1899.

By W. SHAW.

HUMMING BIRD HAWK MOTH (*Macroglossa stellatarum*.)

This insect made its appearance here in May and June. The weather in April and beginning of May was very frosty, and outside the town there was an utter absence of wild flowers. After this a warm spell of weather set in, and it was then that these insects began to appear in great numbers. It confined its visits mostly to tubular flowers, such as lilac, yellow azalea, and wallflowers, and outside of the town it was seen frequenting the flowers of gorse or whin. The moths must have come in from the neighbouring hills, as there is not a single plant of the order on which the caterpillar feeds in the whole town. Altogether, perhaps about 50 specimens were taken here, and many more might have been caught.

Arctia mendica.

A single specimen of this insect was taken here last season. It had not been previously noticed.

Trichiura crataegi.

There has only been one of this insect taken also, but the larva is supposed to be common on the moors here.

Mamestra furva.

I was very much pleased to see a series of six of this moth captured here at sugar. It occurs on the hill tops. It was found at the highest level in Berwickshire also, the

lowest level being at Berwick, when Mr George Bolam took both imago and larva frequently. I consider this a good addition here.

Noctua depuncta.

Not at all common here.

Noctua neglecta.

Several of this insect have been taken at sugar on our moors.

Tryphaena subsequa.

Extremely scarce here, though Mr Bolam has frequently taken it near Berwick.

ABSENCE OF WASPS IN 1899.

Though there never were so many wasps as in 1898, there never were fewer than in 1899. There were a couple of weeks of sunny weather in May, and it was then the queen wasps made their appearance, in about the usual numbers; but all the sunny days had frosty nights, and in the morning the wasps were quite benumbed, and later on they took refuge in houses, where they were killed, or died from the exposure to so much frost at nights. About two dozen queens were killed here, but in one place in Northumberland 54 queens were killed. I am sure I did not see a dozen working wasps during the whole summer, and I fancy there must have been only one nest in this locality. A correspondent says the wasps this year are nearly all of the kind that make their nests in the ground.

Ornithological Notes. By GEORGE BOLAM, F.Z.S.

WAXWING. *Ampelis garrulus*, Linn.

Waxwings occurred in many places throughout the country during the winter of 1897-8, and my note books contain the following records for our district.

Two were killed at Amble, on 4th January 1898; on the 16th another fell a victim to a boy's catapult, on a hedge by the roadside, near Belford Railway Station, and is preserved at the Castle Inn, Bamburgh; and a pair were shot at Felton Park about the same time. On Sunday, 23rd January, the late Mr H. H. Craw watched an individual feeding upon the berries of a beautiful bush of *Pyracantha*, which grows on the front of one of his cottages at Foulden West Farm, and which, from the abundant crop of richly coloured fruit which it seems to carry every year, can scarcely fail to attract the attention of anyone passing along that road in winter time. Often have I stopped to admire that bush, and have more than once had some trouble in satisfying a companion, who would persist that he had never seen the like before, that the plant was not an uncommon one in the country.

MEALY REDPOLE. *Linota linaria* (Linn.)

I saw a very pretty specimen of this bird, on the sea banks below Fenham-le-Moor, on 1st March 1898. It was quite alone, and rather more than usually pale coloured, and appeared to be, at the same time, an exceptionally small example of this pretty species.

Not far from the same place there was a flock of about twenty Twites, *Linota flavirostris* (Linn.), feeding upon a stubble field, in close proximity to a flock of many hundreds of Starlings. Being close to the sea, and generally free from snow during winter, and being besides much addicted to runches and other weeds, this field is always a favourite resort of Twites, Linnets, Larks, *et hoc genus omne*, and well worthy of a visit by the ornithologist. It was here that the Lapland Buntings occurred in 1893, and I have also seen Shore Larks in the same field.

HOODED CROW. *Corvus cornix*, Linn.

On 3rd April 1898, there were five or six pairs of these birds frequenting Detchant Wood, and one pair at least had intentions of remaining there, for I watched them for some time carrying sticks about in their bills, and they were evidently building a nest not far off. On 24th May three individuals were observed feeding upon the sands at Budle Bay.

YELLOW WAGTAIL. *Motacilla raii* (Bonaparte.)

On 6th May 1898, one of these beautiful birds sat for some minutes, preening its feathers, on the garden hedge in front of my house at Haggerston Mead, and within four or five yards of me. It was in fine plumage, and three or four times uttered its call-note, "se-leep, se-leep," as it sat; about an hour later I saw it flying high over the house, and it did not appear again.

On 8th May 1899, I saw another fine example feeding on the grass fields near the Lough, at Holy Island. It was quite as tame as the last, but also appeared to be only a bird on passage, and was not seen afterwards. Mr Leyland tells me that he has seen the Yellow Wagtail occasionally about the artificial lake that he has formed at Haggerston, and it is in the neighbourhood of such a place that we may one of these days hope to find this species remaining to nest with us.

WHIMBREL. *Numenius phaeopus* (Linn.)

These birds are most erratic in their migrations, and frequently stay with us till very late in spring, or return again very early in the autumn. On 14th May 1898, my brother saw one on Yarrow Slake, just above the Royal Border Bridge, at Berwick; and on 12th June 1899, one was still frequenting the fields at Newton-by-the-Sea.

Very early in July they may be heard passing over head at night, on their return journey southwards, and, to those who have an ear for such music, there are few notes more familiar than the Whimbrel's oft repeated whistle amongst

"The various cries sent down at night
By birds of passage on their flight."

 NIGHTINGALE. *Danlias luscini*a (Linn.)

Mr G. G. Butler, Ewart Park, drew my attention to an article (signed "P.A.G.") in *The Outlook* for 4th June 1898, in which Lady Margaret Cameron, of Lochiel, is quoted as writing from Achnacary:—"A nightingale was heard for three weeks, and also seen, during the month of June 1889. The thermometer 90° in the shade in May, very hot all May, June, and July, but cold and wet in the south and east of England." A reference is also made to my Whittingham record for 1893, and the author then adds:—"The same year (1893) the bird nested in the grounds of a friend of the writer, in Glendale."

I have no idea who "P.A.G." may be, and little or no reliance can be attached to an anonymous statement of this nature, but the above is at any rate sufficiently interesting to merit a passing reference here.

 SHORT-EARED OWL. *Asio accipitrinus* (Pallas.)

During the early part of the summer 1898, three or four of these owls might be seen, any afternoon, hawking over the young plantations and rough grass fields at Haggerston, where a generous protection is extended to all such birds

by Mr Leyland, whose example in this respect might with advantage be followed by other land owners. As is well known, these birds approach the diurnal birds of prey more closely than most owls in their manner of seeking food in broad daylight, and it was a pretty sight to see those at Haggerston quartering their ground in the most regular fashion. I suspect, however, that their powers of vision may not have been quite equal to the strong light of a midsummer sun, as otherwise it seemed difficult to account for the many false stoops which the owls made; flying at a height of from six to ten feet over the grass, they seemed to be constantly dropping into it without result. Though a mouse may, no doubt, on some of these occasions have been able to elude the owl's grasp, still, after close observation, I could not help fancying that many a time the supposed mouse must have turned out to be only a stone or other non-edible substance.

Whether or not these owls bred at Haggerston I was not able to satisfy myself; no nest was seen, and soon after the end of June they disappeared. One of them at least fell a victim to the zeal of a neighbouring keeper, who feared for his young pheasants. One of the owls was a very pale coloured bird—in fact, almost creamy white—and I thought at first that it might have been a young one; but Hall, the head keeper at Haggerston, told me that it had frequented the place through the previous autumn, and had often been put up on shooting days, when they were beating the young plantations.

In the early part of November there was a considerable flight of Short-eared Owls to Holy Island, many of which remained about the links for several weeks. I saw one there as late as 29th January 1899, hawking over the fields during the afternoon, and two others were seen a few days later.

HAWFINCH. *Coccothraustes vulgaris*, Pailis.

One was reported to me as having been seen at Holy Island in the early part of November 1897, and to have remained there for several days; another was killed at Felton Park during the same winter, as I have been obligingly

informed by Mr Cuthbert Riddell. A pair were noticed together in the Duke of Northumberland's Park, at Alnwick, on 3rd July 1898, where they would in all likelihood be nesting; and I have a record of another supposed instance of the breeding of this bird in our district during the same year, but it has not yet been verified. The Hawfinch has pushed its way considerably northwards of late years, and seems likely to maintain its footing.

RING OUZEL. *Turdus Torquatus*, Linn.

About the 24th May 1898, and again about the 12th May 1899, there were many of these birds on Holy Island, in conjunction with small bands of other migrants, including both Spotted and Pied Flycatchers, Redstarts, and a couple of Nightjars. These visitations generally occur during misty weather. On 9th October we disturbed two Ring Ouzels near the foot of Kyoel Crag, where they were feeding upon brambles.

When grouse shooting on Cheviot, one day in August, I was rather amused at the discussion which arose over one of these birds. It had been shot by one of our party from a patch of bracken, as we climbed the hill, and was an old bird in moulting condition, and of three gentlemen present, one did not know what it was, but thought it a *rara avis*, while the two others asserted it to be a dotterel! Old Alick, the shepherd, however, knew better, and confidently appealed to me to say "whether it wasna jist a *Hill-blackbird*."

JAY. *Garrulus glandarius* (Linn.)

There was quite an immigration of this species to the south of Scotland, and north of England, in the autumn of 1897, and many were reported from different parts of the Club's district. Dr Stuart first recorded them from Chirnside Parish, where one was shot on 23rd October, and two others seen, while a month or two later another was killed. At Middleton Hall, Belford, and Detchant Wood (an old breeding station from which Jays had long been extirpated) a number

appeared about the beginning of November, and probably remained till they were killed out. Drummond, the head keeper, reported them to be 'quite settled' on 16th January 1898, and some of them were still about the woods in the middle of April. I saw two which had been killed there in the month of February, and another was taken in a vermin trap, in the same locality, fully two months later.

At Howick, at least one appeared in autumn, and remained throughout the winter, but more than one was never seen at a time; it was still there on 24th March. On 20th January a pair were reported from Alnwick Park, where a little later five were said to have been seen together, and Meech, the keeper at Hulne Abbey, believed that a pair nested in the park during the following summer. This would in all probability be the case, as Mr A. H. Evans heard two calling there in April, and again another in June. About Rock four or five Jays were seen during the winter, two of them falling victims to the traps of a rabbit-catcher.

A little further to the south, in Northumberland, a few of the original Jays have always managed to maintain a footing, but during the winter of 1897-98 their numbers were very considerably increased by fresh arrivals, and they appeared in several places where they had not been known for many years previously. Four were shot in one day at Felton Park, during covert shooting; two others falling victims to the guns under similar circumstances at Acton House, where several more were caught at the pheasant feeds. One pair at any rate nested in the Acton woods in 1898, and I was informed that another nest had been found in Hazon Dene.

PIED FLYCATCHER. *Muscicapa atricapilla*, Linn.

There was a considerable influx of these birds in the spring of 1898, and a great rush of them in May 1899, when they were to be seen flitting about all over the district, especially along the coast line, and were in even greater numbers than during the great visitation of 1884.

In 1898, quite a number appeared about the gardens in the village on Holy Island, on and about the 22nd May,

upwards of a dozen being seen together at one place. At the same time many Spotted Flycatchers, Redstarts, and Ring Ouzels were observed, as well as two Nightjars, showing that a regular wave of migration had been arrested on the island. On the same day (22nd May) I watched a pair in the Cockleman's Dene, near Kyloe, where they were busily engaged in catching insects upon the wing about some old willow trees, and I had hoped that they might remain to nest there, but they did not. On 24th May a male appeared at Heiferlaw Bank, and I was informed by Mr Joseph Oliver that a pair had been seen near Little Ryle, about the place where they had nested in the previous year. In the Duke of Northumberland's Park, at Alnwick, quite five or six pairs remained to breed in 1898, the young birds in one nest being about half grown on 17th June. This nest was in a hole, in the bole of a large ash tree, at a height of quite thirty feet from the ground, the same site having been occupied, to my knowledge, in three successive years.

In 1899, Pied Flycatchers first came under my notice on the afternoon of 10th May, when three beautiful males were observed in my father's garden in Ravensdowne, Berwick, a male Redstart and one or two Willow Wrens being also present at the same time. The weather at this time was thick and foggy, with a very slight northerly breeze, and remained so till the 14th, and during that time Flycatchers and other migrants were very numerous. This is quite in accordance with previous experience, and goes to show that, either in autumn or spring, misty weather is by far the best for the observation of migration on our shores. The fog interferes with the vision of the birds, and compels them to descend to the ground, and they are either unable, or unwilling, to continue their journey till the weather has cleared again. In some cases, as in that of the Pied Flycatchers, the birds, finding themselves in suitable breeding quarters, are tempted to stay, and returning again in succeeding years, have so founded a colony which has gone on increasing and spreading.

Between the 10th and 14th May, Pied Flycatchers were everywhere to be met with. In Berwick itself there must have been a large number. They attracted attention in

almost every garden where there were trees or bushes to induce them to stay, and in more than one instance, where the conspicuous markings of the males caught the eye, people reported them to me as black-and-white sparrows. On 12th May I walked round part of the Town Walls, and found the Flycatchers, in threes and fours together, flitting about in all directions. In one large open garden, near the powder magazine, there were in sight at one time four male Pied Flycatchers and ten or eleven cock Redstarts, all of which were sitting upon stones or posts—the garden being almost destitute of bushes—or hopping about the beds and pathways on the lookout for food. Under such circumstances both these birds bear a considerable resemblance to the Robin, in their manner of pitching down to the ground from some slight elevation, in order to pick up an insect or small worm. In the absence of insects (their more legitimate food) Pied Flycatchers seem to take to worms almost as readily as their neighbours, and I have even noticed them following the gardener while digging, and dropping down every now and then to secure some worm, or grub, from the newly turned soil.

At Holy Island a number of Pied Flycatchers were observed on the 12th May, while on the two following days they were numerous at Beal, Haggerston, and Goswick. Males everywhere greatly predominated over females in point of numbers.

During May one was shot at Yetholm, and many others were seen in the neighbourhood of Kelso, where, on the 31st, I was informed that there were still at least one pair about the policies at Newton Don, and it was believed that they were nesting. At North Sunderland, Mr H. A. Paynter reported them to be quite numerous on the 13th, in company with many Redstarts, and he saw two on the Farne Islands on the previous day. At Alnwick also they were first noticed on the 10th May, and were in large numbers, several pairs remaining to nest, as usual, in the park, where, on 2nd June, I had the pleasure of seeing a nest containing four eggs, and when, had we wished it, other nests could easily have been found. From Chapel Hill, Mr John Wilson wrote me on 25th May that he had seen

several in the neighbourhood of Cockburnspath about ten days previously, some of which remained for a short time; and the list of localities might without difficulty be largely increased.

OSPREY. *Pandion haliaëtus* (Linn.)

About the beginning of June 1899, an Osprey was picked up dead, upon the sands at Goswick, where it had been washed up by the sea. It was quite fresh, and in good plumage, but very thin in condition—in fact, almost reduced to a skeleton.

HONEY BUZZARD. *Pernis apivorus* (Linn.)

A young bird, in dark plumage, was killed near Etal about 17th September 1896, and a few days later another example was shot near Falloden.

On the morning of 10th June 1899, a Buzzard, which, though not positively identified, I had very little doubt belonged to this species, passed pretty close to us near Haggerston Castle. It was flying low, and coming straight from the direction of the sea, and had all the appearance of a bird newly arrived from migration.

In August 1897, I saw an adult female, and a scarcely fledged young bird, which had been killed at the nest; the remaining young ones had, for the time being at any rate, made good their escape, and, as I never heard of their being killed afterwards, it is probable they were successfully reared by their male parent. I purposely refrain from mentioning names, or localities, but this shows that this fine summer migrant is still inclined to stay and nest with us, and it would undoubtedly do so more frequently if only a little protection were afforded it.

COMMON BUZZARD. *Buteo vulgaris*, Leach.

This is another species which is too seldom seen in the district, and which, when it does occur, receives but short shrift from our gamekeepers. In the spring of 1897, one was taken in a trap, baited with an egg, and set for corbies,

in a small runner of water, by the side of the road, near Chillingham Park; and so little was the poor Buzzard appreciated by its destroyer, that when he came upon it, all draggled and wet, flapping about in the shallow water, he mistook it for an owl, and merely knocked off its head with his stick, and allowed it to lie where it was for a fortnight, until Spraggan, the head-keeper, found it (still in the trap) and recognised it, but it was then, of course, in an advanced state of decay.

I saw a very beautifully marked young Buzzard in the hands of Mr Robert Duncan of Newcastle, which had been shot on 12th August 1899, on the Allendale Moors, west of Hexham.

ROUGH-LEGGED BUZZARD. *Buteo lagopus* (J. F. Gmelin.)

One was killed near Harbottle, in the end of December 1898, and another at South Hazelrigg, two or three weeks later. The first of these was one of the smallest specimens I have seen; both appeared to be young birds. On 18th October 1898, a rather unusually pale coloured specimen was shot near Backworth; and I saw a beautiful male, which had been killed at Unthank on 18th November of the same year.

In the shop of Mr Robert Duncan, Newcastle, I saw an adult female, a very dark coloured bird, which had been received by him from Alnwick, on 9th November 1899. In its stomach, he told me with regret, he had found the remains of an old cock grouse, the first time during his long experience that he had ever proved, in this manner, a member of the Buzzard family to have been recently dining upon game, and he added that, after all, the grouse might have been a dead or wounded bird, which the Buzzard had picked up. This not improbable excuse will, however, I am afraid, hardly be accepted as conclusive by the game pre-server, who will rather be inclined to ask, with Shakespeare,

“Who finds the Partridge in the Puttock’s nest,
But may imagine how the bird was dead,
Although the Kite soar with unblooded beak?”

I have seen a Rough-legged Buzzard make determined, though unsuccessful, attempts at wood pigeons, as these birds were coming in to roost, in a plantation, at night. The stoops were always made at sitting birds, no attention being paid to those flying around, and very little attempt was made to follow when the pigeon took to flight. After each unsuccessful stoop the Buzzard retired to the edge of the wood, to rest for a few minutes on the top of a wall, apparently with the intention of allowing the pigeons to settle again before having another try at them. Although I watched this performance go on for half an hour at a time, on several successive evenings, I never saw a capture affected; but, from the resolute manner in which the operations were conducted, the Buzzard had evidently a strong belief in his ultimate success.

HEN HARRIER. *Circus cyaneus* (Linn.)

This fine species has, I regret to say, been growing extremely scarce in the district for many years past, and is now but seldom seen.

On 10th January 1898, one, in the plumage of the ringtail, passed me near Murton White House. It was heading almost due south, and flying very close to the ground, in the face of a strong wind, which was blowing at the time. Dr Stuart informed me that, a short time previous to this, a Hen Harrier was seen at Billie Mire, near Chirnside, and "received a round of shots from a shooting party, but managed to escape."

I recently saw, in Newcastle, a fine adult male, which had been killed at Benton, in 1880, and an adult female, shot at Hepple Woodside, Northumberland, on the 29th March 1899.

RAVEN. *Corvus corax*, Linn.

In the autumn of 1897, a pair of Ravens appeared on the Detchant moors, and remained for several weeks. Curiously enough, and as if setting up a claim to ancient ownership, their chief haunt was about "Raven's Crag," a not very

high ridge of rock upon the crest of the moor, and probably an old nesting station of the species. Unfortunately the female was trapped, by one of the keepers, on 22nd October, a beautiful bird, in perfect plumage, and weighing $47\frac{1}{4}$ ozs., when she came into my possession, two days later. The survivor continued to frequent the place until the following spring.

In the autumn of 1898, a solitary Raven appeared upon the Eglingham and Harehope moors, where, as a stranger, it attracted much attention. It was finally shot by James Rough, about the beginning of November; he had observed that it was in the habit of visiting, every morning, an old tree stump near the Ditchburn march, and he accordingly laid in wait, and shot it one morning, as it flew to its perch, just after daybreak.

GOLDFINCH. *Carduelis elegans*, Stephens.

This pretty bird seems to be holding its own in the district, and may perhaps even be increasing. On 4th January 1899, I noticed one frequenting a plantation near Felkington, where, though only one bird was seen, it was scarcely likely to be alone. Mr Murdie saw one at Heifer-law Bank, near Alnwick, on 17th June in the same year, which, he informs me, is the only one he has ever noticed there during summer. On 30th November following I saw two, feeding on thistle seed, on the banks of the Breamish, at Beanley; and Captain Norman tells me that one was seen, near Berwick, on 3rd February last.

At the meeting of the Club, in Redewater, in 1898, I mentioned that I had seen a pair near Otterburn, on 14th July of that year, which, from their actions, and the season of the year, were no doubt nesting in the vicinity.

WRYNECK. *Iynx torquilla*, Linn.

With the stream of Pied Flycatchers, and other commoner migrants, which reached us on 10th May 1899, there were at least two or three specimens of that much rarer bird, the Wryneck. Indeed, the first living example of this species,

which I have ever had the good fortune to see at large in Northumberland, was observed towards the close of that afternoon, in the grounds at Haggerston Castle. I had walked, with my boy, up the side of the Lowe, in order to show him the Pied Flycatchers, and was astonished to see a Wryneck fly from a small bush on the grass, close to us. For a long time it was quietly hopping about the trees within a few yards of us, but it had evidently lost its bearings, and appeared to be chiefly intent upon finding a suitable roosting place. It edged itself closely in against the trunk of an oak, where there was a splintered limb, and although disturbed several times, always returned to the same spot; and, as dusk was setting in before we left, it would no doubt pass the night there. It was an object of much curiosity to a Great Tit, a Chaffinch, and a pair of Willow Wrens, who all made a very close inspection of it, and unmistakably demonstrated their astonishment at meeting with a Wryneck in their accustomed haunts. That the Tit and the Finch should regard it as a stranger was perhaps not unnatural, but the Willow Wrens' surprise seemed less justifiable, seeing that they could not themselves have been settled here for more than a few weeks, and had probably encountered Wrynecks before on their travels; in spite of that, however, they were evidently as much surprised as the others to meet with one, so unexpectedly, in Northumberland. Most curiously, as it happened, upon the same day that we saw the Wryneck at Haggerston, a man, driving a cart, picked up a specimen, lying dead, by the roadside at Lickar Dene, only about two miles away as the crow flies, and, being at a loss to know what the bird was, he fortunately preserved it, and it is now in my collection. It was quite fresh when found, and had not apparently been dead for more than a few hours, though there was nothing to show the cause of its death.

Mr John Wilson, of Chapel Hill, very kindly wrote to tell me of a Wryneck, which was found beneath the telegraph wires, against which it was supposed to have killed itself, near Cockburnspath Station, on 13th May 1899. It was sent to Edinburgh for preservation, and was in the possession of Mr Turner, carpenter, Cockburnspath.

GREAT SPOTTED WOODPECKER. *Dendrocopus major*. (Linn.)

Has of late become well established in the district, but a passing reference may be made to one which appeared in a garden in Castle Terrace, Berwick, in February 1898. On 13th October, in the same year, an immature bird, with red crown, was shot on the Heugh, at Holy Island, where two or three others were seen about the same time.

When passing Kyloe Wood, in the beginning of May last, I had considerable difficulty in persuading a young friend, who was with me, that the loud reverberating rattle—which at once arrested his attention—was, in reality, only the love-call of a male Woodpecker to his mate. This noise, which results from very rapid hammerings with the bill, is a peculiar sound, with a certain weirdness about it, which once heard is not likely to be forgotten, and which can hardly fail to set one wondering how a bird is able to produce it.

TURTLE DOVE. *Turtur communis*, Selby.

During the first week of November 1897, an adult male was shot at, in the Hope Nurseries, Berwick, and, being only slightly wounded, was kept alive in a cage for several weeks afterwards. When I saw it, about the end of November, it had become so tame that it had begun to coo a little, but it did not survive the winter.

PALLAS'S SAND GROUSE. *Syrnhaptes paradoxus* (Pallas.)

About the middle of May 1899, a bird, which, from the accurate descriptions given, could have been nothing else than a Sand Grouse, was seen by two different people on Holy Island. This was during the stream of migration which, as already noticed, took place about the 12th May, and, as the bird allowed of an approach to within a few yards, a mistake in identification was scarcely possible. Moreover, as tending to confirm this record, it may be worth while pointing out that the late Mr John Cordeaux, in *The Naturalist* for June 1899, makes mention of a visitation of Sand Grouse to the Lincolnshire Wolds, from the end of

February to 25th March in that year, where also a single bird was seen on 13th May, and another on 19th of the same month.

BLACK GROUSE. *Tetrao Tetrix*, Linn.

In 1898, I got a most interesting example of a Greyhen assuming the male dress, which was killed near Chillingham. The breast and under parts were very black, but there was a good deal of dark brown freckling upon some of the feathers, especially about the flanks; the black upon the neck, and part of the back, was full and glossy, and the comb over the eye was as bright and large as in a male.

DOTTEREL. *Eudromias morinellus* (Linn.)

I saw a beautiful specimen which had been shot at Cullercoats, on 25th June 1898, and several were killed about the same time on Newbiggin Moor, their skins being sent to Newcastle for fly-dressing. One was picked up, near Beal, in July 1899.

SNIFE. *Gallinago caelestis* (Frenzel.)

On 24th November 1898, I examined a very dark coloured Snipe, which had been brought in by a local shooter, some days before, to one of the game shops in Berwick. All the upper parts, and especially the rump and tail-coverts, were very dark, but the lower parts were white as usual. It was unfortunately too much damaged to be worth preserving.

On 2nd November 1898, during the prevalence of a very high south-westerly wind, I flushed a wisp of 16 Snipe from the rocks, near low-water mark, on Holy Island. There were at the same time upon the rocks, five Field Fares, about a dozen Snow Buntings, and several Larks and Grey-backed Crows, all of which had no doubt just arrived from over the sea.

RUFF. *Machetes pugnax* (Linn.)

In a game shop in Berwick, on 14th September 1896, I saw two immature birds, male and female, which had been received from Fenham that morning. The late Mr H. T. Morton showed me a young Ruff, which had been shot on the moors near Ray, in October 1882. I saw another immature bird shot by Lord Francis Osborne, near Ord House, on 3rd October 1898; when found, it was sitting alone upon a stubble field, and appeared loath to fly away.

While bicycling along a road in the parish of Whitsome, on 25th September 1899, I disturbed a young Ruff from the margin of a pond by the roadside. It was much tamer than some Pewits, which were in its company, and, though five or six times disturbed, it always returned to the pond after flying round once or twice. On consulting Blackadder's map of Berwickshire, after returning home, I was rather surprised to find that the farm on which the pond is situated was called Reevelaw, a rather curious co-incidence.

In October 1899, I presented to the Berwick Museum an immature specimen, which had been killed at Holy Island on the 17th of that month. Adults are more uncommon with us than young birds; but two Ruffs, and a Reeve, which still retained a good deal of their summer plumage, were shot by the late Mr Robert F. Boyd, on a marshy field at Broomhouse, in the parish of Ancroft, a few years ago.

GREEN SANDPIPER. *Totanus ochropus* (Linn.)

Although the majority of these birds only pay us a passing visit in August and September, individuals may occasionally be met with in the district, in almost every month of the year. They seem well able to withstand our hardest winters, and frost has little effect upon them. I presented to the Berwick Museum an adult, in full winter plumage, which was shot by my brother, on the banks of the Breamish, at Beanley, on 1st January 1900, and which, notwithstanding the hard weather prevailing at the time, was excessively fat. For many years past I have occasionally noticed one or two Green Sandpipers wintering in that

locality, a favourite feeding ground being by the sides of the Powburn, where it passes Hedgeley. On 7th December 1899, I flushed a specimen on the links at Cheswick Cottage; on 31st July 1896, one was feeding by the side of the Whitadder, at Canties' Bridge; and another was seen on the Lowe, near Beal, on 18th November 1897.

KNOT. *Tringa canutus*, Linn.

On 13th January 1898, I was agreeably surprised to receive a very fine specimen of this bird, which had already assumed nearly three-quarters of its breeding plumage. It had been shot upon the slakes, at Fenham, on the previous day. The mildness of the season, in the early spring of that year, will be remembered, but still it was very soon for this bird to be changing into its summer dress.

SPOTTED CRAKE. *Porzana maruetta* (Leach.)

My brother shot one on Yarrow Slake on 15th October 1896, and another was killed on the Tweed, not far from the same place, on 28th September 1898.

WHITE-FRONTED GOOSE. *Anser albifrons* (Scopoli.)

I purchased for my collection a nice specimen of this goose, which had been shot near Newton-by-the-Sea, on 9th October 1898. It is only at uncertain intervals that this species seems to visit us.

BERNACLE GOOSE. *Bernicla leucopsis* (Bechstein.)

Of late years this species has shown a disposition to visit the neighbourhood of Holy Island, with considerably more regularity than used formerly to be the case. On 2nd October 1897, one was killed out of a flock of thirteen or fourteen, and on the 10th of the same month, in the following year, four were shot with a punt gun out of a flock of about twenty, which had appeared that day on the slake;

two of these came into my possession. Most of those which remained, left the locality within a day or two, but we had frequent opportunities of seeing a single specimen, which loitered about the mouth of the Beal Lowe up till the beginning of November.

On 6th October 1899, two more Bernacles were shot at Holy Island, and, in the early morning of 27th November following, a flock of about twenty individuals, which were coming up from the direction of the sea, passed over my head near Beal railway station.

BEAN GOOSE. *Anser segetum* (J. F. Gmelin.)

Small parties of wild geese occasionally take to roosting on Yarrow Haugh, just above Tweedmouth railway bridge, and all those killed there, which have come under my notice, have proved to belong to this species. Coming to the slake late in the evening, and leaving again, to feed on the fields inland, in early morning, they are seldom seen during daylight, and seem thus to escape the attention of local shooters. One was killed there in 1896, and another—one of four which had frequented the place for several weeks—was brought to me on 17th December 1898, having been shot early that morning. It was a large bird, in adult plumage, and turned the scales at a little over eight pounds. Two, which were sent to Berwick, on 11th February 1899, had been killed near Fenham, and were immature birds, the heaviest weighing seven and a half pounds.

BITTERN. *Botaurus stellaris* (Linn.)

One evening, about the beginning of January 1898, a Bittern flew into the face of a man, who was walking along the road, in the dark, near Oxford, in the parish of Ancroft, and was struck down and secured after a short scrimmage. I saw it shortly after it had been set up. On 5th December in the same year, Mr J. de C. Paynter, of Alnwick, purchased one, which had been picked up alive, but in a disabled state, close to that town, having, as was supposed, come in contact with the telegraph wires.

Shortly before the hard weather of the present winter set in, a large number of Bitterns reached this country, the greater number being, as usual, reported from the south of England. In our own district one was killed, by a duck shooter, who was waiting for the flight, at Beal Point, on the evening of 14th December. Another example was killed, under similar circumstances, on or about the 12th of the same month, on the shores of Budle Bay. The good-wife of the man who shot the latter bird "didna knaw rightly what te di wi' sic an' a strange beast," and so they ate it! The wings, however, were preserved as ornaments for a hat, and so served the purposes of identification. "It wasna sic bad eating outhier," I was informed, "but tarble sma' i' the body, and maistlies a' legs an' neck."

Another Bittern was caught alive in the back yard of a house at Cullercoats, on the 30th or 31st of December last.

BLACK-THROATED DIVER. *Colymbus arcticus*, Linn.

Is far from common in the neighbourhood of Berwick. On 4th February 1899, I saw an adult, in winter plumage, which had been shot on the Tweed, near New Water Haugh, where it was in company with a young Red-throated Diver, which was killed at the same time.

CORMORANT. *Phalacrocorax cabro* (Linn.)

Cormorants have, during recent years, very greatly increased in numbers about the mouth of the Tweed, where they may be met with nearly all the year round. They must no doubt devour considerable numbers of young *salmonideæ*, while these are descending the river, but flat-fish form a very favourite food. The increase, so far as the Tweed is concerned, only began to become marked about the end of 1895. On 17th March 1897, there is a note in my diary that I had counted no less than seventeen Cormorants that morning, sitting together, on the rocks behind the pier, drying their wings. I have, since that date, frequently seen even larger congregations there, and along the rocks to the north, as well as up the river, two or three birds together

may generally be found; they may also be seen flying over the town at almost any hour of the day during winter. Of late, too, they have become not unfamiliar objects in the windows of the game shops in the town, a position of honour I never knew one to occupy till three years ago.

GREEN CORMORANT. *Phalacrocorax graculus* (Linn.)

This bird seems also to be on the increase to the south of the Tweed. They have always bred on the Berwickshire coast, about St. Abb's Head, and a pair have frequently nested on the Farne Islands; but until recent years the Shag has always been a comparatively rare bird upon the Northumberland coast, or nearer to Berwick than about Eyemouth, and it is not yet by any means commonly met with.

On 17th March 1897, I saw a party of six of these birds on the rocks just north of Berwick, which are the only ones I ever remember to have met with within the borough itself. On 6th September of that year, there were a good many both old and young birds about the Farne Islands, where, on 12th May last, Mr Paynter counted no fewer than fifteen or sixteen pairs, though not more than one or two of these remained to breed there.

BLACK TERN. *Hydrochelidon nigra* (Linn.)

On 24th October 1897 I purchased an immature specimen of this bird which had been shot, only a few hours previously, on the Tweed near Berwick.

Birds in Edinburgh. By JAMES SMAIL, F.S.A. (Scot.),
Edinburgh, President.

It may interest members to know that Edinburgh harbours a large number of birds; indeed, I do not know of any city of equal size in which birds are so numerous and varied, and within the past twenty years they have largely increased in number. This is so far accounted for by the widespread extension in the buildings of the city within that period, together with their accompaniment of surrounding shrubberies and cover—the abode of the birds. Blackbirds are excessively numerous, the Song Thrush is plentiful, and the Warbler tribe is well represented. Magpies are shy birds, but their peculiar chatter is often heard, and the birds are frequently seen within the precincts of the Burgh. For several years I have, within these same precincts, known the nests of Magpies—sometimes only one nest in a season—but two years ago I knew three nests. At one place, where they have regularly nested for some years, they are so well protected that the birds show very little shyness, and fly here and there in the neighbourhood of their nests without any apparent fear. The Brown or Wood Owls also nest in the same locality, and their hooting is a familiar sound to those who inhabit the houses near their abode. I may mention that the property where the Magpies and Owls referred to nest, belongs to a friend of mine, and that, for obvious reasons, I do not name the place. He is a liberal feeder of many wild birds, and his finely sheltered grounds are, in spring and summer, almost alive with song-birds, which nest there in large numbers.

In times of long-continued hard frost, Gulls of various kinds have for the last three or four winters, and in vast numbers, daily frequented the gardens of the higher-lying parts of the city, in search of food. This is something new

on the part of these birds. They arrive at dawn, and fly hither and thither to within an hour or so of sundown, when they leave.

There are a considerable number of small rookeries in Edinburgh, some of them very old.

[Magpies may very often be seen in the Botanical Gardens, Edinburgh, and I saw two nests there in 1899, the young of which were fledged, and frequenting the trees on the east of the gardens, their tameness (in contrast to their country cousins) being most striking. In reference to the Gulls having of recent years begun to frequent Edinburgh in hard weather, it may be interesting to note that the same thing applies to Berwick. Prior to 1892 I never saw a Gull on our streets, nor in gardens in the town; but when the hard frosts of February of that year were at their height (and the thermometer, it will be remembered, fell considerably below zero on several occasions) a few Gulls began to appear, hawking about the streets, particularly in such wide places as the top of Castlegate, and in the more open parts of the Greens. These were, almost without exception, Black-headed Gulls. In February 1895, however, when we had again a very low temperature, and a long continuance of hard weather, the Black-heads were usually accompanied by Common Gulls, and occasionally even by *Larus argentatus*, many of the latter going regularly at breakfast time to be fed in gardens in Castle Terrace. The habit thus acquired very quickly *caught on*, and it may now be said to be quite an established custom that, as soon as we have a day or two's hard weather, our streets and gardens in the town will be besieged by flocks of Black-headed Gulls, and the more open places, like Castle Terrace and Bank Hill, visited also by Herring Gulls. During the last severe snowstorm, dozens of Black-headed Gulls came regularly to be fed with the small birds in front of our windows, while it was quite a common sight to see long rows of them sitting upon the roofs of houses, or dipping into the streets to secure any scraps or offal thrown out.—G.B.]

A Brood of Long-tailed Tits. By JAMES SMAIL,
F.S.A. (Scot.), Edinburgh, President.

MACGILLIVRAY says, "I have seen a nest in which were sixteen young ones." In Rule Water valley, in Duncan's Hollow, I once saw a brood of Long-tailed Tits, numbering fourteen. They had newly left the nest, and they were all perched side by side, and as close as they could possibly sit, on a horizontal twig in the centre of an old hawthorn tree. They seemed sleeping, and were evidently resting. At the first glance I could not make out what they were; they looked like a roll of feathers, of about a foot in length, stuck on to the branch. I noticed that they were sitting, to use a homely phrase, heads-and-thraws. I cut the small branch on which they sat, and quietly withdrew it from the tree. When this took place, eleven of the younglings fluttered on to the grass, but three of them steadily held their seats till I carried them to the house where I was staying, and back—a short distance, however. When I took them back I found the parent birds excited and busy, attending to the wants of the others, and my three small long-tails were joyously received.

Lesser Fork-beard, or Tadpole Fish. *Raniceps trifurcatus*
(Turton.) By GEORGE BOLAM, F.Z.S.

Two specimens of this rare fish occurred in the spring of 1899. The first was caught by a line boat off Berwick, on 22nd February, the other about a month later, and both were exhibited in Mr Holmes' shop, in Bridge Street, the first mentioned afterwards finding its way into our Museum.

When I examined the specimen caught in February, a few hours after it had been landed, it was of a dark rich brown colour, deepening almost to black, the white skin of the inside of the lips and gill-coverts showing most vividly where exposed; underneath it was rather paler in colour. It measured $10\frac{1}{2}$ inches in extreme length, and across the thickest part of the body, just behind the head, about $2\frac{1}{2}$ inches, as it lay. It was in plump condition, hard to the touch. The curious ventral fins (if fins they can be called) were very small, and the slender thread-like rays issuing from them were quite white. The fish being fresh when I saw it, the tubercles were not visible.

The second specimen was slightly less than the first, but was otherwise similar. The late Dr George Johnston recorded a Tadpole fish from Berwick, in 1832, and the sketch of it, which he forwarded to Yarrell, and which is given in the latter's "British Fishes" (Vol. II., p. 208), is much better than the plate given in Dr F. Day's work.

Notes from Garden and Field. By CHARLES STUART,
M.D., Chirnside.

As the winter passes into spring, and a start into growth is made by early flowering plants and bulbs, it is remarkable—among plant lovers—how the old interest in the progress of vegetation is revived.

Previous to Christmas 1899, a certain amount of frost and snow had been the rule, the weather being very unsettled. In the fresh intervals, it was curious to remark the start into growth made by bulbs of the *Narcissus* family in making the ground crack, in the lines in which they were planted, and presently to see the green leaves peeping through the ground. No plant stands the frost better than the Daffodil, while dry sunny weather is its greatest enemy. To persons who consider a wild garden with endless varieties of plants, before formal bedding, it is possible to have a succession of flowering subjects in the open during every month of the year.

The winter of 1898-9 was a very fresh one, and there was a succession of Crocuses (*Croci*) from September till Christmas, when the lovely *Crocus imperati* was in flower during several weeks, and on New Year's Day (1899) was in perfection. This season, with more frost in the ground, it did not display its buff striped exterior, with delicate lilac interior, till the 16th January 1900. *Crocus speciosus* is the first of the family which flowers, in autumn; and a bed of it, of some years standing, with brilliant blue colour—the stamina bright scarlet—when the sun is shining, is a sight no one who has seen it will forget.

Helleborus maximus, the large Christmas rose, was in fine flower from November till Christmas, on which day a bouquet of it, gathered from among snow and ice, revived on being placed in water, and furnished a seasonable posy. The Continental Hybrid varieties succeed this grand plant, and in fresh weather are not to be despised for cutting for the house. To preserve them indoors, split the stems into four for two or three inches up, and place them in a bowl of tepid water, floating flowers and foliage on their backs,

In this way these blooms will last a fortnight. Without any protection whatever, a dozen different varieties were in flower, in the open border, on 25th January. The winter Heliotrope, *Tussilago fragrans*, with its almondy perfume, was opening. The *Helleborus foetidus*, a British plant, was also showing its greenish blooms. With slight protection, many plants from November flowered profusely.

Saxifraga fortunei, a most interesting Chinese form—sent to this country by a distinguished Berwickshire man, and named after him—flowered in November and December. It makes a striking pot plant, with its long feathery plumes of flowers, keeping well above the foliage. Kept outside all the summer, and put into a cold frame in October, it sends up half a dozen flower spikes, which are most attractive, and the plant anyone can grow.

The Afghan Lily, *Schizostylis coccinea*, is another subject which requires a little protection. Planted out all the summer, it may be potted up in October, and placed in a cold frame; it will flower till Christmas, and later. Out of doors, in Berwickshire, it is unsatisfactory. It forms a very bright bit of scarlet colour, when flowers are scarce. *Tritileia uniflora*, treated in the same way, makes a good winter flowerer. It is quite hardy here, but flowers later on in spring. When a little care is taken of it, the flowers are much larger, more delicately shaded, and altogether more chaste.

The Snowdrop was just pushing through the open ground when this serious February storm came, with 19° of frost on the 7th and 8th. Vegetation has got a severe check. The larger flowered Snowdrops from Smyrna and that district of country, as well as the Grecian Islands, are most lovely subjects to grow. *Galanthus Ikarii*, from the island of Ikaria, is perhaps the finest of the whole family. When grown in leaf mould and loam, in a cold frame, with no other protection, it is so delicate, the flowers so large and white, and so refined in habit, that it is sure to be cultivated when better known. *Galanthus Melvillei* is another form which resembles our garden favourite, only it is twice as large, and perfectly hardy; and when I state that its habit is perfect, I cannot say more for our *Galanthus nivalis*,

which cannot be excelled. It was raised by Mr Melville, at Dunrobin Castle. *Galanthus robustus* (Baker) is another gem, and *G. imperati* and many other forms. I may not omit, however, a most robust and elegant *Galanthus* from M. Atlas (*Galanthus whittali*), which is perhaps as early as any. *G. Elsvesii*, from the Crimea, has size in its favour, and a globular form is attractive. For early spring flowers, nothing gives more satisfaction than a cold frame devoted to treasures like the *Galanthus* family, interspersed with *Cyclamen coum*, *Scilla Sibirica*, *Chionodoxa lucilliae*, *Sisyrinchiums* (white and lilac), *Iris stylosa*, *Iris kreilagii*, *Iris reticulata*, etc. For, after all, our spring flowers give us more pleasure than those which come later, and more in profusion.

I have endeavoured to notice a few plants incidental to the back end of the year and the early spring, and will now give a few notes on the autumnal and spring migration of birds.

The Swallow fled from our harsh climate very early this last autumn, all being gone by the 4th October; were first seen at Allanton Bridge, on the 21st April. The Swifts remained a month longer with us than usual. They generally leave with the first Lammas flood, about the 12th August; first observed about 10th May. If weather is fresh, Swallows will remain with us till the end of October, or even later. Should a sharp frost occur, as it did this past season, and no insect food to be had, they suddenly disappear.

Few of our summer migrants are seen after September. No doubt young birds remain till they are strong enough to fly a distance. The Willow Wren and Whitethroats are often seen at a late season, feeding on the remains of currants and raspberries. Frost causes many of our songsters to cross the sea to warmer quarters, as reported by the lighthouse keepers on our coasts. The Thrush is often killed by knocking itself against the lanterns of a lighthouse at night. It is remarkable, however, in this severe storm of 7th, 8th, 9th, and 10th February, with nineteen degrees of frost through the night, that this bird, in considerable numbers, is in the Eastern Borders. Taking particular

notice, I have observed at least a dozen during the last two days, about the roots of hedges and in the garden. Seeing that the Thrush lives on grubs and worms for the most part, hunger drives it, with other birds, to share the mixed food set about for the benefit of all comers. On 10th February, at the side of a small run of water, a mole was throwing up the soil, and a Thrush was sitting watching the operation, and catching the worms as thrown up! The hedge bottoms are rarely so hard as to prevent Blackbirds and Thrushes from getting some of their usual food by scraping and scratching. Berwickshire is so well furnished with old hedges that the birds just mentioned are rarely entirely absent, although the lighthouse keepers report that both are seen in flocks at their lanterns on migration.

The Green Plover, in countless numbers, is seen during autumn and early winter, when the weather is fresh, flying about the crofts in this district. It is difficult to name a more interesting sight than a flock of at least a thousand going through their aerial evolutions, in bright sunshine. I never tire of watching these. Last season (1888-9) they never left the district. This season, just before Christmas, they left in a body; and although small packs were seen at the breaking up of the first storm, their numbers were never great. None have been seen during the present frost. Before migrating to the mud flats of Holland, these beautiful birds present a most unhappy appearance, being strictly a grub-eating bird—the ground being hard, no food was to be had. I have often wondered how they increased in numbers, seeing that their nests are robbed in such a heartless manner. Now, however, they have a certain amount of preservation, as their eggs may not be abstracted after a certain date. The young were running on the roads and fields by the 10th May 1899, and how they escape from birds of prey and other enemies is marvellous; for they rush, in times of danger, to the nearest tufts of grass, and hide their heads, leaving their bodies exposed. The Green Plover must destroy an enormous amount of grubs and worms, and is perhaps the most harmless of the bird family, as well as the most elegant.

Fringilla montifringilla.—The Brambling, or Mountain Finch, is one of our most interesting winter visitants. It arrives, in twos and threes, about the end of October most regularly. By the 12th November the main body appears at the same places every year. A beech wood, with the mast falling, seems the attraction. Near my house a flock of at least three hundred have frequented a grove of beech trees in process of being cut down. The cutters, with carts and horses, are there every day. The Mountain Finch is a shy bird, but continued to feed till the 10th February of the present year, when, having consumed all the mast, they made off to the stackyards, where there is a good supply of grain, on which they also feed. Before a storm it is a pretty sight to observe them fluttering along in a pack, with the white feathers about the tail and wings making them very conspicuous. They seem well spread over the district, and often are associated with Chaffinches and Greenfinches.

The Snow Bunting, *Plectrophenax nivalis*. Snowfleck, or Lesser Mountain Finch, is also an interesting winter visitant, although never very plentiful in the Eastern Borders. It usually is observed where sheep are artificially fed with bog hay. There it feeds on the grass seeds on the hay, and generally before or during a snowstorm. In winter it has patches of white about its tail and wings, brown over the back, and its legs and feet are jet black, as if they had been varnished. It has an undulating flight, and a peculiar tinkling call. When it alights it runs along the ground, like a partridge. The plumage of this bird is whiter in summer. In Sutherlandshire I have observed them at that season nearly white. The hind claw is like the Lark, lengthened, and nearly straight. I had a specimen in my hand, at West Foulden, on 5th February, shot out of a family of eight, which were feeding on grass seeds laid down with hay for the sheep.

The Black-headed Bunting, *Emberiza schæniclus*, seems to be with us all the year through, many being seen about stacks at the present time. The male is a very attractive bird, with his black poll and white ring round his neck. The female is also very pretty, the markings on the breast and the rich coloured brown back being very conspicuous.

This bird likes to be near water, hence a name Reed Bunting sometimes given to it. It builds near or on the ground, and can hardly be called a migrant.

Dendrocopus major, the Great Spotted Woodpecker, has nested in two places in Duns Castle Woods during last season, brought up the young birds, which have flown, and will do well. Although a true migrant from Scandinavia, these birds remain all the year round at Duns Castle, Langton, and Longformacus. Last October I observed one busily feeding in the strip of wood by the roadside between Tempest Bank and the Free Church at Allanton. That these birds frequent the woods about that neighbourhood is easily seen, as the dead branches (particularly of the oaks) are entirely denuded of the dead bark, which they effect in search of insects. A considerable flight and migration had reached the north and east coasts of the kingdom, reports of their arrival being sent from Tongue, in Sutherland, to our own coasts. There is little doubt that a colony has established itself between Carlisle and the Eastern Borders. They nest in the month of June.

The Pied Flycatcher is a rare visitant to the Eastern Borders; but a flight had evidently reached our coast, for specimens were reported from Dunbar, St. Abbs, Whitecross, and Coldingham, on the 15th May 1899. More inland, Mr Ferguson reports the presence of a pair at Duns Castle Loch. I have seen them on three different occasions in this parish, in different years. They are not, however, seen every year.

The Dipper, *Cinclus aquaticus*, is plentiful about every bridge on the Whitadder. To watch him at the side of a stream, go flop overhead, and emerge a considerable distance farther down a rough stream (for this bird walks on his feet under water) with his mouth full of larvæ, is a curious sight. In December, perched on a stone, one is astonished to hear the very pretty, sweet song, uncommon at that season; and, on closer inspection, the little black bird, with white patch and ring, is seen whisking his tail up and down, and bobbing most politely to his mate.

Alcedo ispida.—The Kingfisher is always about the river bank at Ninewells. On a sunny day, with plumage well

displayed, it passes the bystander like a flash of light. It occasionally is seen at all the bridges, the Kebby Burn, Allanton, and by several of the small rivulets flowing into the Tweed at the Union Bridge.

On the 13th June an Albino Skylark was taken from a nest at West Foulden, by the shepherd, the other inmates of the nest being of the usual colour. In former years I saw a milk-white Lark in a flock of the ordinary colour, on the same farm.

Saxicola cinanthe.—The Wheatear is among our earliest spring migrants, and is sometimes seen here as early as 30th March.

Emberiza miliaria, the Corn Bunting. For many years I only knew of two stations for the Corn Bunting—Mayfield, Auchencrow, and Canty's Bridge. Now, like the Starling, this jolly, well-fed looking bird is to be seen sitting on the topmost twig of the hedges, uttering its peculiar unmusical note, in many places in this district. It is in some degree migratory, and its motions are very interesting. It nests about the beginning of May, on or near the ground, at the side of a tuft of grass, or at the hedge root. After rearing its young, it passes the summer till the ripening of the grain, when, surprising to relate, the young broods and their parents migrate to the south. We see nothing more of them till late in the autumn, when there is an accession from the north, and unless the weather is severe, they remain all winter in flocks, with Chaffinches, Yellow Hammers, and Bramblings. However, they are sometimes awanting, and new colonies come from the north, so that there seems to be a continual coming and going. I have seen them as far north as Thurso, sitting on the telegraph wires, and at the time considered that the stream of birds came from Norway and Sweden, and travelled south as the weather became more inclement.

Carduelis elegans.—The Goldfinch is now a very rare bird in the Eastern Borders. Fifty years ago—when cultivation of the fields was not so universal, and a few thistles were spared—at Crossrig, in Hutton parish, little families of Goldfinches, five and six in number, were seen by me, clinging by their claws and scooping out the seed. Now,

the food being scarcer, it is a rare sight to see more than one at a time. Within the last three years I have observed one at Foulden, on a rough hedge bank; one at Hutton Hall Barns; and a pair at the Kebby Burn, Hutton Hall; also a friend saw one on the park wall, Foulden House. Bird catchers have told me that the Whitadder banks, between Edington Mill and Hutton Bridge—where thistles, *A. centaurea*, and burrs abound—Goldfinches are not uncommon.

The Sand Martin arrived at Allanton Bridge on 4th April; left on 4th August. Swallows on 21st April; left on 4th October. The Cuckoo arrived at Blackburn, Chirside, on 28th April; left on 23rd June. The House Martin on 30th April; left on 20th September. The Landrail, or Corncrake, arrived at Duns Parks on 8th May; left on 1st August. Several young birds remained a month longer. *Cypselus apus*, the Swift, arrived on 5th May; left on 30th August. Three weeks later than usual, the Redstart arrived on 4th May; left on 1st August; very scarce here this season. The Whitethroat arrived on 16th May; left on 4th September, and was very plentiful here in all the wild hedges. The Willow Wren arrived on 24th April; left on 4th September.

Caprimulgus Europæus.—The Nightjar is a true migrant, and a night Swallow. It generally is seen early in May, if weather is good. With large open mouth, it flies in a furtive manner at the edges of the wood, catching moths, etc., as it moves along. It is a very shapely, handsome bird, with rich brown plumage, and the mechanism of the mouth is unique, as it opens as if on a hinge. Moths are said to fly in, but I cannot vouch for the truth of this. A keeper, who was watching at dusk to shoot me a Daubentons Bat, got a chance at the Nightjar, and shot it. I sent the specimen to Mr Eagle Clarke, at the Museum of Science and Art, which was in beautiful plumage, and few birds have so handsome a coat.

Sylvia curruca, the Lesser Whitethroat. I never got my eyes on a single specimen of this interesting bird in 1899. A wild hedge near Hutton Hall, where it was at one time to be seen, has been cut to the ground, and there was no cover. At Allanton Bridge, where I had opportunities of

watching this, the same thing has happened. The snow-berry bushes and hedges have all been cut down. I was too near the bird on many occasions to have made any mistake as to its identity. Mr Smail, our late President, informed me that he knew the bird quite well in the Earlston and Jedburgh districts. It has been seen at Berwick, and, in favourable seasons, I am sure that eventually some other observer will confirm my report as to its identity. I have stood below the tree upon which it was singing, and listened to its song, which is exceedingly sweet. Its mate was in a nest not far off, although I did not succeed in finding it. A night singer, I have heard it at 11 p.m., and again at 2 a.m., in passing in my conveyance when out on duty. In colour, it is much lighter along the breast and abdomen than the Common Whitethroat, and a softer grey colour over the back, and seemed rather longer in shape than the common form. One could hardly mistake it for the Sedge Warbler, which is also a night singer. It would be impossible, I should suppose, to mistake the birds, which differ entirely in appearance. The shyness is remarkable, for it likes to be in a position where a short flight would remove it from all danger. The high wall which surrounds the grounds at Blackadder was within thirty yards of where it was nesting.

Motacillidæ.—The Wagtails are very plentiful by the rivers, from early spring. The Grey Wagtail (*M. melanope*) remains, in mild weather, with us all winter. *M. raii* is occasionally seen, as also the Pied Wagtail (*M. lugubris*), generally about the end of April.

At Whitehall, the garden entrance to Ninewells, and along the beautifully wooded banks of the Whitadder to Chirnside Bridge, the following birds are rarely absent during the early weeks of June:—*Phylloscopus rufus*, the Chiff-chaff; *Regulus cristatus*, the Goldcrest; *Sylvia hortensis*, the Garden Warbler; *Sylvia atricapilla*, the Blackcap (10th May); *Phylloscopus trochilus*, the Willow Wren. The Chiff-chaff is one of our earliest arrivals, sometimes as early as the 30th March, and remains till September. The others are later in appearing, but their notes are best heard in the early weeks of June, when they are busy nesting.

Although the Nightingale is never heard in Scotland, the Blackcap is no bad substitute. In fine weather the notes of this bird are singularly sweet and well modulated, and lead the listener to the tree upon which it is singing. The notes of the Garden Warbler are often heard associated with those of the Blackcap, and the concert of birds to be heard at the garden entrance of Ninewells, on a summer morning, is not easily forgotten.

The spring of 1899 was most unseasonably cold and wet, acting as a damper on the song birds. There was a want of unanimity in their notes, not the fine concert we sometimes hear early in a spring morning, when—in a spruce grove—every bird, frequenting its protection, seems to be singing at the same time. Everyone must be familiar with the notes of the Thrush and the Blackbird; how well they accord. The Thrush with its high, well modulated song; the Blackbird with its mellow contralto.

In conclusion, *Parus caudatus*, the Long-tailed Tit, is rarely absent from our parish at Chirnside. It is perhaps the most singular in appearance of any of its relations. It is generally seen in winter, in families of a dozen or more. With its peculiar note, flying along the tops of the trees in search of food, hanging head downwards by its claws, no more curious sight can be imagined. It is not very shy when feeding, as I have stood under the trees and watched the proceedings of the colony without causing alarm. It builds a dome-shaped nest, with sometimes two holes in the sides, and the construction is a marvel of skill. Bewick asserts that the hen occupies the nest when incubating, with head inside; while the male bird feeds his mate, and sits with his head turned outside, to make the earliest exit in the morning, in search of food! There was a large colony of these birds at Billie Brae (parish of Coldingham) seen by me in December, and at Harelaw Quarry spruce wood they are often seen.

Country Bird Rhymes. By the PRESIDENT.

I.—ENGLISH.

MORN and eve the winter long,
 You may hear the dipper's song,
 Soft and gentle, sweet and clear;
 Hearken if you wish to hear.

O to hear the linnet
 Start his morning song;
 If he but begin it,
 All the feathered throng
 Listen for a minute,
 Then break out in song.

When the sedge bird in the thorn
 Tells the sleepy world his care,
 When the beetle blows his horn,
 As he cleaves the balmy air,
 Shrew and mouse begin to quake,
 For they know the hour is come
 When the hungry owls awake,
 Hunt, and clutch, and bear them home.

What time bright April's growing old,
 And furze puts on its robe of gold,
 The first cuckoo her presence tells,
 And breaks the silence on the fells;
 And they who do not joy to hear
 Find little joy throughout the year.

Welcome is the cornerake's call,
 Though so rough and same withal;
 When it falls upon the ear,
 Who that hears it would not hear?

Cushats gently cooing in the lonely wood
 Tell of rest unbroken, peace, and solitude:
 Cushats on the corn lands crowding, cramming aye,
 Tell how rest has vanished, peace has flown away.

II.—SCOTS.

Wheety-why the whitethroat
Dances when he sings,
Ower the brier and bramble,
Hoverin' on his wings;
Haud his tongue he canna,
Singin' is his flam;
A' the country laddies
Ca' him Bletherin' Tam.

Merry water wagtails,
A' the bairnies know
How yer tails' wag-waggin'
Gars the burnies flow;
And how wicked kelpies
Tell the frettin' linn
If ye stop the waggin'
Burnies winna rin.

Cheerily 'mang ice and snaw
Sings the bobbin' water-craw;
Feeble though his sang may be,
There's a charm for you and me.

CORNCRAKE.

When the corncrake from the plain
Pipes his glad return again,
All rejoice again to hear
Summer's faithful pioneer.
When he first begins his *crek*
Grassblades jimply hide his back;
When the corn is lushy-green
He disports at will unseen;
When the fields with grain are bright
He proclaims it day and night;

When the harvest tints appear
He no longer greets the ear;
When September nears its end
He has found another land.

CUCKOO.

The following rhyme, by our Treasurer, I have extracted from the *Zoologist* (Fourth Series, Vol. II., No. 14, p. 87.) The vernacular is excellent, specially so when heard from the lips of a native, and will be appreciated by Northumbrian members.—J.S.

“In Mairch, gin ye sairch, ye may find a Cuckoo,
But it's April afore ye can hear her;
When wor weel into May, she sings night an' day,
Wi' a voice that graws clearer an' clearer.
Come in June, very soon she'll alter her tune,
An' cry kook, kook, kook, kook-coo,
Wi' a kind o' a chetter, which, gin ye come at her,
Ye'll find is the out-comes o' *two*.
By Julee, o'er the sea she's preparin' to flee,
An' man stairt, or the wether gets cader;
In August gan she must, an' her young man jist trust
To the Cheeper, until they get ader.
An' dod its gey queer, how the time o' the year
The young be ther sells can remember,
But whatsoever the cause, maist a' body knaws
They'll a' be away wi' September.”

G.B.

Spear-head found at Rutherford. By the PRESIDENT.

(PLATE II.)

THE drawing represented on Plate II. was obligingly sent to me by Mr Thomas Scott of Earlston. It very faithfully portrays an ancient bronze Spear-head, which was found by a man named John Hood, on a ploughed field near Rutherford, about the middle of May 1899.

The blade and socket measure about eight inches in length, and, except for the corrosion at the edges, the weapon is in a good state of preservation.

An Ancient Apothecary's Mortar. By the PRESIDENT.

(PLATE III.)

THE old bronze Mortar, for the drawing of which (given on Plate III.) I am indebted to Mr Adam Laing of Hawick, was presented to the Museum of the Hawick Archæological Society by the late Mr Anderson of Woodburn, in 1881. It is a very substantial vessel, and measures about eight inches in height, and one inch more in diameter at the top. The inscription reads: "Gilbert Primros, Chirvrgien, 1569." Gilbert Primros was a well-known physician in France, in the middle of the 16th century, and an ancestor of the present Earl of Rosebery.



T.S.

BRONZE SPEARHEAD FOUND NEAR RUTHERFORD.





ANCIENT APOTHECARY'S MORTAR.



On a Cist and other Remains discovered near Berwick.

By GEORGE BOLAM, F.Z.S.

IN the beginning of February 1898, the plough laid bare part of an ancient Stone Coffin, or Cist, in a field called "Cocklaw Hill," upon the farm of High Cocklaw, within the Borough of Berwick. In company with Captain Norman and Mr Sanderson, the tenant of the farm, I visited the place a few days after the discovery, and saw the cist *in situ*. It was composed of five large rough sandstone slabs, one on each side, and one as a cover, but had no bottom save the dry, hard clay. The inside measurements were—length, 4 feet 6 inches; width, 1 foot 11 inches; depth, 2 feet 3 inches. It lay in an east to west direction, and at a depth of about 18 inches below the then surface of the soil; but from long cultivation of the field, the original depth had no doubt been considerably encroached upon. Owing to the unequal size of the unhewn slabs, the cist was not rectangular, but was considerably widest at the east end. When opened, nothing could be found in it, unless a very small quantity of black earth may have represented remains, but this is very doubtful.

Mr Sanderson informed us that this was the third cist which he had discovered in the same field. In one of the others, some pieces of charred bone, and the fragments of a broken clay urn, were found. He had also discovered, at different times—in the same field—two querns, one of which is now in the Berwick Museum, as well as several celts; while in an adjoining field he had seen remains of what he took to be an ancient camp, or village, with traces of what seemed to be a paved road. Near the latter he had recently dug up a large, roughly-squared stone, with a neatly wrought cup running through it, tapering to the base. This we saw lying by the side of the field, and Captain Norman ventured the opinion that it might perhaps have been the base of a flag-staff.

On the Occurrence of Sphodrus leucophthalmus, Linn., in
the district. By GEORGE BOLAM, F.Z.S.

A SPECIMEN of this striking-looking beetle was captured by Mr William Wallace, as it ran quickly over the pavement in front of Mr Elliot's shop in High Hill, Berwick, one evening in September 1893 or 1894, and, as it is by no means a common insect, it is desirable to place the occurrence on record. In all likelihood it had come from the cellar window, which abuts upon the street—"cellars, warehouses, and such obscure places" being the best known habitats of the species.

S. leucophthalmus is already reported for Berwick, in Mr Dunlop's list, published in Vol. II. of the Club's "History," and there was an old specimen in Dr Johnston's collection, which would probably be a local one. In the "Catalogue of the Insects of Northumberland and Durham," by the late Dr Hardy and Thomas Bold (Transactions of the Tyneside Naturalists' Field Club, Vol. I. p. 40), the entry is:—"In cellars and warehouses, not abundant. A specimen in an outhouse at Twizell, and another in a cellar at Lucker.—P. J. Selby, Esq.—Newcastle and Long Benton." In after years Dr Hardy had a specimen which was thought to have come from a baker's premises in Duns.

Landowning in Northumberland. By the late R. G.
BOLAM, Berwick-on-Tweed.

[Reprinted from the *Newcastle Daily Journal*, 14th July 1887.]

SINCE the day when God spake unto Adam and Eve, saying: "Be fruitful, and multiply and replenish the earth, and subdue it," the desire to possess some portion of the earth's surface seems to have been the ruling passion among their descendants, whether in the form of an inordinate desire to possess the whole, as in Alexander, or in the more humble wish of the old sea captain, who only wanted a bit of land in which to stick his wooden leg, and call his own. For this end wars innumerable have deluged the world in blood, and crimes without number have been committed; for this end we find Abraham purchasing the field of Machpelah for a place in which to bury his dead; Jacob purchasing the birthright of his brother Esau; and Joseph purchasing the land of Egypt for Pharaoh; Alexander conquering the world, and sighing for other worlds to conquer; the Romans invading Britain; and, in more recent times, the Normans invading and conquering England, William promising lands and lordships both rich and plentiful to his barons and retainers; while recent events would go far to prove that the passion is still as strong in the human breast, as it was in the days of Alexander or of William the Conqueror.

As it would be impossible within the limits of the present article to deal, except very partially, with all the questions which an enquiry into "Landowning in Northumberland" opens up, it must suffice to take only a cursory view of the past, giving an illustration here and there in passing, in order to devote more attention to the changes which have taken place within the last fifty years, or during the reign of Her Most Gracious Majesty whose Jubilee we have just been celebrating.

We are told on high authority (Haydn) that agriculture was introduced into England by the Romans, A.D. 27, but

the evidence of the stone and of the flint period would lead us to believe that long before the advent of the Romans some rude form of agriculture must have been exercised by the numerous inhabitants of the land, and that districts must have been in the possession of tribes or families.

The departure of the Romans, A.D. 409, was followed by centuries of wars and invasions, race succeeding race, as they successively landed and gained a footing upon our shores, until the advent of the Normans under William the Conqueror in 1066 introduced a strong and settled government in the land, though for some generations afterwards the northern part of England remained in an unsettled and only partially conquered state.

With the Normans the military tenure was introduced into England, and William parcelled out the country among his chief barons and retainers, which grants constitute the baronies known as such throughout the country, many of which exist to this day; while of others there remains but the memory of a name, chaunted, it may be, in some old song, or told in some old legend "of the good old times"—

"In days of yore, those good and golden days
Which all who know them not so warmly praise."

—*Service Legends.*

The Doomesday Book of 1068, which remains, even in our day, as a record of the patience and industry of that age, contains a wonderful account of the lands and tenures in England in the time of the Conqueror. Unfortunately the northern extremity of the kingdom was in too unsettled a state to admit of Northumberland being included in that survey, and we have to wait the production of "The Bolden Book," by Bishop Pudsey, in 1170, and "The Testa de Nevil," (time of Henry III.) for a record of the lands and holdings in this county.

Though the county of Northumberland was not included in the Doomesday Book of 1068, and only partially subdued, William the Conqueror appears to have exercised sovereignty over it, as we find that he granted "the seignory or fran-

chise of Redesdale," and the Baronies of Alnwick, Morpeth, Mitford, Bolam, Delaval, and probably Whalton, and the Manors of Chevington and Dilston, the county being in the hands of the Crown after the death of Earl Waltheof. William Rufus granted the Barony of Bailliol. Henry I. the Baronies of Wooler, Wark, Beanley, Prudhoe, Bolbec, Emildon, Bothal, Heron, and Ellingham, and the Manors of Budle and Spindleston, Bradford and Gosforth. The Manors remaining to the Crown being Bamburgh, Newcastle, Warkworth, Rothbury, Corbridge, and Newburn, and the district of Tindale. A few small estates were held by sergeanty, and a considerable number were still possessed under the old Saxon tenure of Drengage or Theinage.

With the establishment of the military tenure and knights' service, we find in the county a mixture of Norman and Saxon customs. The Norman lords, in taking possession of their baronies, would appear to have taken over also the tenants or occupiers of land, and allowed them to continue under their old tenures. We have thus in the same district the Norman service by knights' fees alongside the old tenure of Thanage and Drengage, by which the tenants were obliged to cultivate the lord's lands, reap his harvest, etc.; the old impost of Danegeld, originally levied to bribe the Danes to leave the coast, and the Norman impost of cornage or noutgeld, and of Castle Ward by service for defence of the lord's castle. All those services were from time to time converted into money payments, rents being first paid in money A.D. 1135.

In 31 Henry 1st (1131) the profits of the County and the Royal Manors were farmed by Odard, the Sheriff, at £139 5s. 0½d., out of which had to be deducted fixed charges amounting to £10 17s. 6d. annually.

In 49 Henry 3rd (1265) the cornage paid to the Crown by the owners of the several baronies and lands amounted to £18 4s. 6d.

In the Testa de Nevil is given a full and particular account of all the lands and services in Northumberland, with the names of the possessors. From this the following extract is given regarding "the Barony of Bolbec," one of these granted by Henry I.:—

"Hugh de Bolbec held in cap. of the King, Stiford, Brumhalgh, Slaly, Shotley, Hedden-in-Wall, Hedwin, East Thornton, Whichester, Houghton, Bonwell, Eshewic, Angerton, Middleton, Moralie, Burnton, Beryll, Renwick, East Matfen, Harnham, Shafthow, Hawkswell, Kirkharle, South Middleton, Kain, Hartwayton, Hawic, Rothley, Newton Grange, moiety of Bywell. Old feoffment Of the said Hugh de Bolbec held

Gilbert de Slaley, 1 knight's fee O.F.

Wido de Arayns, Hedwyn, as 4th part of 1 knight's fee O.F.
Silille de Crawden, Wycester, Horeton, and Walington, 1 knight's fee O.F.

Richard de Benwell, moiety of Benwell, as 4th part of 1 knight's fee O.F.

Robt. de Wychester and Henry de-la-Val, other moiety of Benwell, 4th part of 1 knight's fee new feoffments.

Eustace De-la-Val held Echwic as half a knight's fee new F.

Robt. de Ryhill and Christian, his wife, a moiety of Middleton; and

Morel and John Middleton the other moiety as 3rd part of 1 knight's fee N.F.

Otver de Insula held Thornton, Burnton, Borhill, Renwic, Matfen East, Hawkswell, and 2 carucates of land in Kirkharle as 4th part of 1 knight's fee O.F.

Heir of John Fitz Robert held Kirkharle, except above 2 caruc. as 4th of 1 fee N.F.

Alwina de Bolam and James de Calci and Alice his wife held Harnham, Shaftoe, South Middleton, Cambo, Hartwayton, Hawaic, Rothley, Newton Grange, 2 fees and one-half old feoffment.

Roger de Caldecotes and Matilda his wife, Gilbert de Harle and Mariot his wife held moiety of Bywell; 1 knight's fee old feoffment.

Robert de West Hedwyn held West Hedwyn as 3rd part of 1 knight's fee O.F.

"Socage of Bolbec."

Alan Tyson held of Hugh de Bolbec one caruc. of land in Shotley at 16s. 8d. rent.

Thos. de Black Hedley one caruc., also in Shotley, 14s. 8d. rent.

Will. Fitz Simon, 20 acres there at 40d. rent.
 Evelred, 20a. there, 40d. rent.
 Gilbert de Hedley, 40a. in Shotley, 12d. rent.
 Henry Fitz Ranulph, 56a., Shotley, 2d. rent.
 Ranulph de Morlay, 40a., Shotley, half a mark.
 Roger de Whitchester, 40a., Heddou-on-Wall, 40d. rent.
 Robert de Whitchester, 40a. land in Heddou, at 15d. rent."

And as instances of special service may also be quoted:—

"Earl Patric held in cap. of the King. Beneley, Hiddesley, Edlingham, Lemmington, Brampton, Wyton, Shipley, Harup, Stanton, Horsley, Windgates, and Ritton by inborough and out borough service between England and Scotland."

"Will. de Callaley held Calleley and Yetlington in cap. of the King in Drengage and 30s. rent and doing Truncage (viz. carry wood) to Bamburgh Castle, he ought to pay taillage with King's tenants and Demesne and owes Herriot and Merchatt."*

From the Black Book of the Exchequer the following return is extracted (time Henry III.) from Spearman's MSS.:—

"Acknowledgment of Lands of Walter de Bolbec, 4 knights' fees and $\frac{1}{2}$ of old F. of which Gilbert de Bolam holds $2\frac{1}{2}$, Hugh de Craw-den. Will, filius Boius 1.O.F., Ota de Insula $1\frac{1}{2}$ N.F., Riginald son or Wimand $\frac{1}{2}$ a fee, John Moral and Gospatrick each $\frac{1}{3}$ rd, Wibert de Slaley 1. Total of the fees of Bolbec 5 knights' fees."

These holdings, under the great barons, would appear to have been the origin of the smaller estates, such holdings having gradually, as the services were converted into annual money payments, become freehold, and in very many instances are held as separate estates at this time, or, where merged into larger properties, preserve their own individuality as townships; and it is also a curious fact that many of these properties still pay the annual charges for castle guard, fee

* Calleley estate pays a quit rent of £1 6s. 10d. to Bamburgh Castle, in conditions of sale 1877.

farm, and other rents, one of the most peculiar of these rents existing in some of the northern baronies being called hen and capon rents, one hen and capon representing in money 3s. 3d.

In the year 1660 military tenure was abolished.

Another instance of old associations may be mentioned here—viz., that “the corfew bell,” established by William the Conqueror, still rouses the burgesses of Berwick-on-Tweed at 5 a.m., and at 8 p.m. reminds them that another day has passed away.

Names of the gentry of Northumberland returned by the Commissioners in the 12th year of King Henry VI. (1433):—

Thomas, Bishop of Durham	} Commissioners to take the oath.
Ra. Earl of Westmorland	
Tho. Lilburne	
John Carington	
} Knights of the Shire.	
Robt. Umfravil, Knt.	Row. Thirlwall.
Rd. Grey, Knt.	Rich. Featherstonhalgh.
Rob. Ogle, senr., Knt.	Gilb. Rotherford.
Rob. Ogle, junr., Knt.	Will. Muschance.
John Bertram, Knt.	Gilb. Eryngton.
Will. Elmeden, Knt.	Will. Clennele.
Joh. Middleton, Knt.	Joh. Hiron de Netherton.
Will. Swinburn, Knt.	Thos. Reed de Redesdale.
Joh. Manners, Knt.	Rog. Ushere.
Math. Whitfield, Knt.	Tho. Midleton.
Will. Carnaby.	Joh. Ellerington.
Joh. Fenwick.	Joh. Park.
John Middleton.	Rich. Lilburne.
Tho. Ilderton.	Tho. Elwicke.
Rob. Rames.	Joh. Eryngton.
Thos. Haggerston.	Nich. Herin de Melden.
Rob. Manners.	John Trewyk.
Laur. Acton.	Jos. Chestre.
Thos. Grey de Horton.	Lion. Chestre.
Thos. Blenkinsopp.	John Horsley de Horsley.
Jaco. Bach de Morpeth.	

Sir Thomas Swinburne, High Sheriff for the years 1628-29, gives a return of freeholders in Northumberland "from returns of freeholders and inquest," comprising:—

15 Knights.
33 Esquires.
182 Gentlemen.
51 Yeomen (Spearman's MSS.)

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The following return of landowners in 1774 appears in Hutchinson, Vol. 2, p. 450:—

Duke of Northumberland, £40,000 per annum.
Duke of Portland, £8,000 per annum.
Earl of Tankerville, £12,000 per annum.
Earl of Carlisle, £10,000 per annum.
Lord Ravensworth, £3,000 per annum.
Sir G. Warren, £2,000 per annum.
Sir J. H. Delaval, £10,000 per annum.
Sir W. C. Blackett, £8,000 per annum.
Sir M. W. Ridley, £5,000 per annum.
Sir F. Blake, £4,000 per annum.
— Reed, Esq., £2,000 per annum.

Northumberland is essentially a county of large estates, large farms, and of old family holdings, and yet few counties in England can show a greater record of changes of estates and of families while retaining all its old associations. We still trace within its boundaries the old baronies of the Normans, with their sub-divisions into small estates; the old baronial courts are still held; the tenants still attend to do homage; and if the names of the lords have changed, can we not with justice say that the house of Percy worthily represents, and with added lustre, the old baronies of Visery and of Umfraville.

Mr Broderick, in his "English Land and English Landlords," published by the Cobden Club, 1881, gives the following table, extracted from "The New Domesday Book" of 1873:—

Class.	Acres.	Average.	No. of Owners.
Peers ..	322,722	35,858	9
Great landowners	471,523	8,897	53
Esquires ..	173,000	2,059	84
Greater yeomen	90,500	400	181
Lesser yeomen	49,130	170	289
Small proprietors	42,456	26 $\frac{2}{3}$	1,531
Cottagers ..	1,424	$\frac{1}{3}$	10,036
Public bodies	39,288	517	76
Waste ..	30,286		
	<hr/> 1,220,329		<hr/> 12,259

Though the changes which have taken place within the last 50 years will be afterwards mentioned (Appendix I.), it may be noted here in passing that since the above return was made in 1873, four of the great landowners have disappeared from the list, while the estate of another (the Charltons) is in the market, and of the esquires thirteen have sold out their holdings, not to mention smaller proprietors. Going back to the last 50 years—1837-87—the following old county families have either altogether disappeared or have lost their representative character in the county:—

The Stanleys of Haggerston (now represented by Sir John S. Errington of Sandhoe, Bart.)

Gillum of Middleton (Belford).	The Lords of the Admiralty.
Reed of Chipchase.	Selby of Cheswick.
Cay of Charlton (N. Charlton).	Vernon of Widdrington.
Smith of Haughton Castle.	Davidson of Swarland and Lanton.
Bigge of Linden.	
Grey of Morwick.	Coulson of Blenkinsop.
Wilkie of Hetton.	Clavering of Calleley.
Ogle of Causey Park.	Brewis of Eshott.
Taylor of Doxford.	Forsters of Tughall.
Tufnell of Holburn.	Atkinson of Lorbottle.
Tarlton of Ryle.	Lawson of Longhirst.
Gillan of Trewitt.	Buston of Buston.
Brandling of Gosforth.	Fitz-Clarence of Etal.

And at the present time the whole of the estates of the Charltons of Hesleyside (some 22,000 acres) are in the market. The Charltons are described by the late Dr Charlton in his "North Tynedale and the Four Graynes" as "the foremost Grayne," and he adds at page 101:—"The Swinburnes and the Charltons hold the lands they held in the thirteenth century. The Robsons are rife at Falstone, the Dodds are yet numerous on the border, and the Milburns are by no means extinct; may it be long ere these goodly names cease to be found in the district." And yet after the lapse of 16 years, the estates, the entire holding, of the chief of these names, are in the market, and may pass into the hands of strangers. *Sic Transit gloria mundi!*

To reverse the old proverb, having sped the parting guest, we now turn to notice and to welcome the new landowners since 1837, among whom the principal are:—Capt. Leyland of Haggerston; Mr A. H. Browne of Calleley; the late Lord Durham, now represented by the Hon. F. Lambton; Mr Hugh Taylor of Chipchase; Mr Leather of Middleton, near Belford; Sir W. Crossman of Cheswick; Lord Armstrong of Crag-side; Mr Cruddas of Budle; Mr Straker of Stagshaw; Mr Morton of Biddick; Eyre's Trustees (Stamford); Messrs Joicey of Blenkinsop and Longhirst; Mr Ames of Linden; and Mr Laing of Etal; and when we consider that the gentlemen (some from a distance, though in others we recognise old friends), have expended considerably over two millions in the purchase of land within the county, while the following have added largely to their holding therein, viz:—The Duke of Northumberland, the Earl of Ravensworth, the late Lord Redesdale, the late Mr Cresswell of Cresswell, Major Mitford of Mitford, Mr Beaumont of Dilston, Mr Clayton of The Chesters, Mr Riddell of Felton, Mr Bates of Heddon, and Mr Weallans of Flotterton, we may be justified in expressing a hope that its future is safe in their hands, and that in Northumberland at least land is still a marketable commodity, though at a reduced value.

Within the past 50 years more than one-fifth of the whole lands in the county, or over 260,000 acres, representing some 300 separate estates, have either changed hands or have been offered for sale in the market, some having changed

hands two or three times within that period; and the result may be stated shortly, that fully two-thirds of those sold have been added to other estates within the county, the effect being to increase the size of large properties and to reduce considerably the number of the smaller holdings of squires and yeomen. This may be matter of regret, but at the present time it is a process going on over the country.

In a list of the sale of estates belonging to the Hon. Henry Grey in 1731, thirteen separate estates, containing 16,970 acres, and representing part of the estates of the late Ralph, Lord Grey, were sold to separate owners. Of these one is held by the direct representative of the purchaser of 1731; another has passed into the hands of the present Earl Grey; while all the remainder have changed hands, and are now merged in other and larger estates.

Dated from "Carron Abbey, 6th Sept., 1783," Dr Yelloby writes to his friend, the late Mr Wm. Burrell of Broom Park, lamenting the changes which had taken place, and says that in 1615—

Lemington belonged to a Beadnell,
Shawdon belonged to a Proctor.
Bassington belonged to a Callaley.
Huln Abbey belonged to a Salkeld.
Gosforth and Felton belonged to a Lister.
Swarland belonged to a Hazelrigg.
Dunston belonged to a Whitwany.
Belford belonged to a Armourer.

An anecdote connected with Lemington (from Spearman's MSS.) may not be out of place here: "Lemington in 1627 was the seat of the Beadnells; in 1753 it passed into the hands of Robert Fenwick, Esq., High Sheriff of Northumberland. His son Nicholas married a daughter of Mr Collingwood Forster of Alnwick, who used to boast that there was not a furse or a whin bush in the county that had not at one time or other belonged to a Fenwick or a Forster."

The large farms of Northumberland have made it incumbent upon the proprietors to provide not only large accommodation for the farmer and for his stock, but also cottages for his workpeople employed upon the farm, who, in the absence

of villages, are obliged to reside thereon. Somewhere, about fifty years ago, the late Dr Gilley, then vicar of Norham, drew attention to the state of the cottages upon the Borders, which were then old and dilapidated; in fact relicts of former days, when the occupier, afraid of Border raids, was in the habit of carrying with him the doors and windows necessary for the dwelling. With security from disturbance came the desire for improvements, and Dr Gilley's views were soon taken up by Lord Grey, followed immediately by the Duke of Northumberland, then by other proprietors, large and small, until the cottages of Northumberland could compare favourably with those of any other county. These improvements are still going on, the cottage of thirty or forty years ago being found too small for the requirements of the present day.

Attempts from time to time have been made to induce the farm labourers to give up their migratory habits, and to settle down in villages similar to what we find in southern counties, where the small farmers are supplied from the neighbouring villages. Those attempts have, however, not been successful in Northumberland; the size of the farms would, of necessity, have placed any such village at a distance, while the men having charge of the horses and cattle must be at hand. Village cottages have to a certain extent induced men to remain longer at a place, but so long as the cottages are included in the farm, and are a part of the yearly wages appertaining to his employment, so long, more or less, will the yearly migration from farm to farm go on.

The tendency of the present time would appear to be that the squire and yeoman class are decreasing, the holdings of the large proprietors are increasing, while round our cities and towns a large number of small holdings of the suburban class have arisen. In former days the old yeoman was looked upon as the backbone of the country in time of need, and we cannot without regret note the fact that he is disappearing, and should he not become extinct, will exist only to farm the land which himself or his forefathers once owned.

[NOTE.—It has not been found possible to add the Appendix contemplated.]

The Functions of the Climbing Roots of Ivy. By
COMMANDER NORMAN, R.N., Fellow Bot. Soc., Edin.

(PLATE IV.)

I find that it always surprises the non-botanical mind, and very naturally so, to learn that the solid matter of plants and trees—even of the very largest, heaviest, and most imposing denizen of the forest—is derived from the air through the leaves, and very little indeed, just a few buckets of ash in the case of a moderate sized tree, from the soil.

Yet, of course, as we are all aware, there must be a soil connection, or, in the case of aquatic plants, a water connection, or those mineral constituents which are indispensable to the growth, health, and identity of the plant or tree cannot be obtained.

The aerial roots of many tropical plants, including the epiphytal or non-terrestrial section of orchids, serve to attach them to branches and other supports, and help no doubt to supply them with moisture; but with what else does not seem clear, as they are physiologically different from true roots. In the case of ivy, however, we have a plant with roots in the soil, whose branches are furnished with climbing rootlets or fibrous attachments as well, which are supposed to serve merely for mechanical support, and not to be true roots in any physiological sense.

In my garden I have ivy upon walls and ivy upon banks, and while that in the former position is furnished with them as usual, that upon the latter is wholly destitute of any indication of climbing attachments; but this is merely a reminder from personal observation of a well-known habit.

It is clear, therefore, that the climbing roots of ivy are products of the necessities of the situation, and my ideas have been directed to the supposition that in exceptional situations to supply abnormally urgent necessities, these climbing roots may be more capable than has generally been supposed of performing the functions of true soil roots.



IVY GROWING AT OVERBURY COURT, WORCESTERSHIRE, 1900, AFTER GROUND
ROOTS HAD BEEN SEVERED FOR 18 YEARS.



Consequently I have much interest in drawing attention to the photograph—reproduced on Plate IV., and taken in January 1900—of a *Hedera helix* clinging to the wall of the gamekeeper's house at Overbury Court, Worcestershire, the estate of R. B. Martin, Esq., M.P. It will be seen at once that the stems—for there are two, though I am not sure whether they represent two separate plants—have no earth connection; as, upwards of fourteen years ago, within my own recollection, and upwards of eighteen within the keeper's, they were completely severed about five feet from the ground, the lower parts being uprooted and entirely removed, on account of some building or drainage exigencies, leaving the upper parts as represented.

Nevertheless, the ivy has continued to flower, fruit, and flourish, and even to make periodically climbing or spreading shoots, which have to be clipped; though very naturally the vigour of the latter is clearly very much less than those of another ivy on the same house in immediate contiguity, which has not been interfered with, whose branches may be seen to the right of the picture, touching—even mixing with—those of my subject.

Year after year I have visited this remarkable and interesting ivy, or ivies, and have always found it difficult to believe that during all that long succession of seasons they could have lived on healthily—even to the annual production of tissue, flowers, and berries—without something more than water and carbonic dioxide from the air; and for long I was impressed with the conviction that something must have been obtained from the oolitic limestone, or mortar, of which the walls of the house are built; in other words, that the climbing roots must have responded to the abnormal demands made upon them, and must have altered sufficiently in structure to enable them, partially at all events, to compensate for the absence of true roots.

In order to determine to what extent that has been the case, I obtained specimens of the climbing stem. A close inspection revealed the fact that the masonry of the house being rather loosely jointed, the ivy had taken advantage of the facilities offered by striking roots into the joints.

The point is, are these roots true roots independent of

the climbing rootlets, and different in structure from them, or are they climbing rootlets altered and developed? It is difficult to determine with certainty from the specimen, but apparently it shows fibres in every stage of development, from hairs to thick root-like processes. In the case of ivy upon trees, whose stems have been separated, the ivy always dies, I believe, because no nourishment is obtainable from the tree; but in the instance before us the struggle of the ivy for life has evidently depended upon its powers of penetrating and developing roots in the masonry. The attempt has evidently been successful, though of course within limits, but on the whole I think that my specimen is a nice example of the balancing of forces in the struggle for existence.

I think that the views of authorities on my subject may be interesting.

"The stem of the ivy is attached by dense tufted fibres, which serve for support, not for nourishment."—*Smith's English Flora*, 1824.

"The aërial roots of ivy are simply processes intended for mechanical support."—*Professor J. H. Balfour*.

"The climbing roots of ivy are physiologically different from true roots."—*Prantl and Vines*, 1886.

"Roots are usually buried in the soil, but they may be aërial, as in ivy."—*Chambers's Encyclopedie*, 1891.

"If we detach a portion of the stem (of ivy) on which climbing root-like processes have just begun to appear in a tender and pellucid condition, and lay it on damp moss in a shady place, it will be found that the claws begin immediately to lengthen into true roots, and ramify through the moss in search of nourishment, and if left alone will soon sustain the cutting as an independent plant. The tufted fibres must therefore be true roots which have been arrested in the process of development, but become developed, and penetrate far into masonry to which the plant clings, to provide for it whenever an accident shall result in isolation. Interesting examples of ivy as an aërial plant may be observed at Hadleigh Castle, near Southend, Essex, and on the old walls of Conway."—*Shirley Hibberd in The Ivy*, 1872—an instructive and interesting illustrated monograph.





DECIDUOUS VARIETY OF CEDRUS ATLANTICA.

Chichester, 1899.

On a Deciduous Cedrus Atlantica. By COMMANDER
NORMAN, R.N., Fellow Bot. Soc., Edin.

(PLATE V.)

Two sorts of deciduous Conifers are known to botanists, namely, the Larch and the deciduous Cypress, yet rare and isolated instances have occurred of deciduous Cedars, the first of which, *Cedrus Libani* var. *decidua*, was noticed by Carrière in 1851, and is recorded in Vol. xiv. of the Journal of the Royal Horticultural Society. He again visited the tree in 1866, found it completely denuded of leaves, and considered it a further proof of close affinity between Cedars and Larches.

Mr Adolphus Kent, the author of Veitch's "Manual of Coniferæ," writes to me:—"I have had brought under my notice a deciduous form of *C. Deodara*, so, with your *Atlantica*, we have now a deciduous form of each of the three Cedars."

The reference is to the original of the photograph which is reproduced on Plate V.

During a recent visit to Chichester, my attention being called to the tree in the grounds of Mrs Douglas Henty, Westgate, I inspected it, and elicited the facts that about sixteen years ago Mr Douglas Henty introduced from a nursery three small seedling African Cedars, two of which were planted in an adjacent open field, and the third in the garden about fifteen yards from the house, seven feet from a low wall beyond the house, and thirty-six feet from the stem of a tall, bushy, clipped Bay.

The two in the field, when I was there in June 1899, were healthy, well furnished, and flourishing trees, and have never displayed any abnormal tendencies; whereas the third one, near the house, has from the very first regularly shed its leaves every autumn, and assumed them again in the following spring, deciduously, like the Larch.

The photograph shows the Cedar as it was at the end of January 1900, and, except for the absence of leaves, presents nothing remarkable—unless, indeed, the growth be a little less robust and more straggly than usual, and than that of its two sisters in the open.

Of course I need scarcely remark that the thickened processes that appear on the branches are not leaves, but arrested branchlets.

Mr Kent supposes that the deciduous character is only an abnormal state produced by situation, or some local cause, though why that should be I can offer no explanation, nor am I aware whether botanical science has suggested any theory about the fall of the leaf in some trees and not in others.





ELDER GROWING IN LIVE APPLE.

Overbury Court, Worcestershire, 1900.

50765

An Elder growing on an Apple Tree. By COMMANDER
NORMAN, R.N., Fellow Bot. Soc., Edin.

(PLATE VI.)

THE experience of small seedlings growing in chinks of the bark and on decayed places in trees is a common one, so my third photograph—reproduced on Plate VI.—presents nothing of particular botanical interest, yet the original can hardly fail to arrest attention from even the most casual passer-by.

It represents a healthy, flourishing Apple, upon which is growing a healthy, flourishing, flowering, and fruiting Elder.

To the non-botanical observer it might be necessary to point out that in such a production there is nothing parasitical, the explanation being that an Elder berry has been dropped by a bird on the surface of the decayed scar of an old branch that has been removed, and has pushed its roots down through the partially decayed hollow of the trunk to the soil. I tapped the trunk to make sure that it was hollow.

I may add that the Elder first made its appearance about four years ago, and, as it was getting very straggly, I amused myself by pruning it for the tenant, Henry Wise, Esq., of Silver Rill, Overbury, Worcestershire, so as to ensure more compact and shapely growth.

Letter from the Clerk to the Long Parliament. (Communicated by WILLIAM WILSON, B.A., formerly Scholar of Trinity College, Cambridge.)

THE following copy of a Letter from the Clerk to the Long Parliament may be of some interest to the members of our Club. It contains what I should suppose to be somewhat unusual in such a document—an interlineation (viz., the word Ordinance), which is printed for convenience sake in Italics. The contractions, etc., are reproduced as far as possible, and memoranda are appended containing all the references to Henry Scobell that I have been able to find. The letter, I may add, was found by me in a bundle containing old Bridge accounts, Mayor's accounts, and other documents relating to the town and garrison, which might well repay examination, but which no doubt are reposing in undisturbed uselessness on the shelves of the Corporation's safe, along with old charters and other unconsidered trifles of a like kind.

Die Lune, 28^o Januarij 1649.

The humble Petition of the Maio^r Bayliffs and Burgesses of Berwick upon Tweed was this day read.

Ordered by the Parliam^t. That the Towne of Berwick upon Tweed doe from henceforth hold and jnoye (*sic*) their Priviledges and customs, according to their Charter formerly granted them untill this House shall take further Order notwithstanding any Act *Ordinance* or Order of Parliam^t to the contrary.

Hen. Scobell, Cler
Parliamen

The endings of the lines of the signature are frayed and indistinct.

The following notices of Scobell are taken from "Pepys's Diary," edited by Lord Braybrooke. In this edition the old spelling is now and then used, apparently at random, and it has therefore been thought advisable to give the extracts in the spelling of the present day.

9th January 1659-60.

"Among other things, W. Simons told me how his uncle Scobell was on Saturday last called to the bar, for entering in the journal of the House, for the year 1653, these words: "This day his Excellence the Lord General Cromwell dissolved this House," which words the Parliament voted a forgery, and demanded of him how they came to be entered. He said that they were his own handwriting, and that he did it by rights of his office, and the practice of his predecessor; and that the intent of the practice was to let posterity know how such and such a Parliament was dissolved, whether by the command of the King, or by their own neglect, as the last House of Lords was; and that to this end, he had said and writ that it was dissolved by his Excellency the Lord G.; and that for the word dissolved, he never at the time did hear of any other term; and desired pardon if he would not dare to make a word himself what it was six years after, before they came themselves to call it an interruption; that they were so little satisfied with this answer, that they did choose a committee to report to the House whether this crime of Mr Scobell's did come within the act of indemnity or no. Thence into the Hall, where I heard for certain that Monk was coming to London, and that Bradshaw's lodgings were preparing for him."

This last sentence explains the whole affair. The Parliament knew that the King would soon "enjoy his own again," and Scobell was to be made the scapegoat. It was now safe to treat him "roughly":—

5th February (Lord's Day) 1660.

"In the Court of Wards I saw the three Lords Commissioners sitting upon some action where Mr Scobell was concerned, and my Lord Fountain took him up very roughly about some things he had said."

Note: Sir Thomas Widdrington and Serjeants Thomas Tyrrel and John Fountain had just been appointed Lords Commissioners of the Great Seal.

23rd November 1663.

"To St. Paul's Churchyard, and there bespoke 'Rushworth's Collections,' and 'Scobell's Acts of the Long Parliamhnt,' etc., which I will make the King pay for as to the Office, and so I do not break my vow at all": i.e. apparently some vow he had made not to buy any more books for some time to come. These were to be "charged to the Office"!

These are two more notices by Pepys of Scobell, who must have died some time previously.

12th December 1663.

"Luellin tells me that W. Symons's wife is dead, for which I am sorry, she being a good woman, and tells me an odd story of her saying before her death, being in good sense, that there stood her uncle Scobell."

8th January 1664.

"He (i.e. W. Symons) made good to me the story which Luellin did tell me the other day, of his wife upon her death-bed; how she dreamt of her uncle Scobell, and did foretell, from some discourse she had with him, that she should die four days hence, and not sooner, and did all along say so, and did so."

And thus Scobell disappears from the pages of the famous Diary. It is to be hoped, for the sake of the relations who survived him, that this was the last, as it seems to have been the first, of his return visits.

OBITUARY NOTICES.

Robert George Bolam of Berwick-on-Tweed.

By the death of Mr R. G. Bolam, which occurred very suddenly on 24th June 1899, the Club has lost an old and valued member whose place will not be easily filled. He joined the Club in 1868, and was generally able to attend a meeting or two every year, when his extensive knowledge of the district, not less than the genial good nature with which his information was imparted to others, made his presence always welcome. In the archæology and traditional lore of the Border, more especially on the English side, he took a deep interest, and very few men were more conversant with its topography and family history. Natural history and arboriculture were favourite relaxations, and in a practical way he was also well versed in the geology of Northumberland. Although the many business calls upon his time but seldom allowed him leisure to contribute directly to the "Proceedings," he was ever ready to extend a helping hand to those who were better off in that respect, and any special knowledge which he possessed was always freely placed at the disposal of others. With Dr Hardy his correspondence was voluminous, dating back over very many years, and the information thus acquired was frequently made use of by our late Secretary in drawing up his reports and papers. The editors of the new "County History of Northumberland" were also considerably indebted to him for going over and

correcting sheets and supplying details on many obscure points, and for the first volume of the series he wrote the chapter on Agriculture. The article on *Landowning in Northumberland*, printed on pp. 129-139, was one of a series which appeared in the local newspapers in commemoration of the Queen's Jubilee in 1887, and it contains so much that is interesting on this extensive subject that it has been thought worth while to reproduce it here.

Up till within a few months of his decease Mr Bolam had enjoyed general good health, but an attack of influenza in the spring of last year told heavily upon him, and had affected his vital powers to such an extent that his medical advisers urged him to take a prolonged rest from business. But to a man of his active habits, engrossed as he constantly was with work, it is not an easy matter to leave home on short notice, and not thinking himself so weak as he really had been, the much-needed holiday was delayed until, as the sequence proved, it was too late. In company with his friend, Mr Leather Culley of Fowberry Tower, he left home on Monday, 19th June, for Luss, on Loch Lomond, and it was there that, early on the following Saturday morning, he breathed his last. They had been fishing together on the loch the previous day, and when Mr Culley parted from him in the afternoon he appeared to be in his accustomed health and good spirits, and to be enjoying his holiday. It had been arranged that they should meet again in the beginning of the week, but a Higher Power had decreed otherwise, and the telegram the following morning, announcing that he had quietly passed away in the night, came therefore as a great shock to his many friends and relatives at home.

Born on 31st May 1827, at Way-te-Wooler, of which his father was at that time tenant, the subject of our notice was the second son of the late John Bolam, who afterwards farmed Easington Grange and Glororum, and died in 1874. His forebears had been settled in Northumberland from very early times, and had for many generations back been engaged in agriculture in the county, farming in some instances the land which their ancestors had once owned. Upon leaving school, in 1844, Mr Bolam served a premium

apprenticeship with the late Mr John Bourne of Newcastle, an eminent civil engineer of his day, and while in his office assisted in the survey of a considerable portion of the land taken for railways in Northumberland and the adjoining counties. Several of his old field-books and plans of these early days, still in existence, testify to that great accuracy and attention to detail, which to the end was so characteristic of him; while the sketches, with which they are occasionally interspersed, prove him to have been more than ordinarily proficient with the pencil.

After he left Newcastle Mr Bolam was for some years with the late Mr Lowrey, at Barmoor, until at that gentleman's decease, in 1865, he succeeded to his business as a land agent, and, up to the time of his death, few men have been better known or more highly esteemed in that capacity than he was. His intimate knowledge of all subjects affecting the landed interest made his advice on such matters much sought after, while the reliance placed in his integrity and judgment was frequently shown by both landlord and tenant applying to him to settle knotty points between them. But while his rare aptitude for business and his methodical habits enabled him to get through an enormous amount of work, he never grasped at business, and many persons have reason to remember with gratitude professional services rendered by him gratuitously. With him work was always regarded less as a means of making money than in the light of a duty, which he owed it to himself as well as to his clients to perform to the best of his ability, and he sought no higher reward than the approval of his own conscience.

As a sportsman Mr Bolam belonged to the old school, and when time allowed no one could enjoy a country life more than he did, or enter more thoroughly into its pursuits. A good shot with both gun and rifle, he could always be relied upon to give a satisfactory account of himself either in the field or by the covert side, and with the rod he was a past master, especially devoted to fly fishing. He was also an accurate observer, and for many years kept regular records of the arrival and departure of our migratory birds, the highest and lowest temperatures, etc. He also took the keenest interest in all antiquarian matters, and had formed

a small but select collection of local antiquities. For many years he had been a member of the Architectural and Archæological Society of Durham and Northumberland, and of the Society of Antiquaries of Newcastle-upon-Tyne. He became a life member of the Royal Agricultural Society and the Highland Society in 1866, and, as representing the estates under his charge, he had served upon the Tweed Commission for more than twenty years, during which time he had also been an active member of its Police Committee.

His library contained a rare and valuable collection of local histories and works of reference, and with the contents of his volumes he was intimately acquainted. When particular information was required upon any special point, he was seldom at a loss to know where to turn for it, and no trouble was ever spared to make certain that his information was correct before he would venture to quote it. He was a Churchman, and in politics a staunch Conservative, who had often done yeoman service in the interests of the party at election times. "Whatsoever thy hand findeth to do, do it with thy might," was an axiom which he sought to carry out through life, and, with his retirement from the scenes of his labour, Northumberland mourns a son whose loss has left her distinctly poorer.

Rev. George Gunn, M.A. By REV. DAVID PAUL, LL.D.,
Edinburgh.

It was only so recently as the 30th September 1898 that Dr James Hardy, Secretary to the Berwickshire Naturalists' Club for twenty-seven years, died, and already the pages of its Proceedings are opened to receive an obituary notice of his successor. All who are interested in its affairs and prosperity were hoping that, having recovered in some measure from the loss caused by the death of that gifted and devoted steersman, it would continue its course for many years under the guidance of him who had been unanimously chosen to stand at the helm in his place. The beginning made by the new Secretary was of such a kind that any fears which the older members might entertain were gradually dissipated, and it was soon generally felt that the appointment of Mr Gunn to his arduous and responsible post had been both safe and wise. The hope, however, that he might continue for long to direct its management has not been realised. After having acted as Dr Hardy's colleague for two years, and held the office of sole Secretary for the brief period of fifteen months, he too has passed away.

George Gunn, though his lot was cast in the Borders for the last twenty-two years of his life, was not a Border man. He was born in Edinburgh, on the 3rd of June 1851. His father, who was sub-editor of the *Edinburgh Courant*, died when his son was still a mere boy. He received his education at the High School and the University of Edinburgh. His course at college was more than a respectable

one, and it would probably have been distinguished if the circumstances of his early life had been more favourable to study. But he was the eldest son in a family of five, and, like many another Scotch student, he had to eke out the somewhat scanty home resources by spending several hours a day in private teaching, as well as in assisting his younger brothers. After passing through the Arts Curriculum, and gaining the degree of M.A., he entered the classes of the Divinity Hall, and received license as a Probationer in 1876 from the Presbytery of Edinburgh. Shortly afterwards he was appointed assistant to Dr Norman Macleod, minister of St. Stephen's Church, in that city, and in that capacity he continued for about two years.

In the spring of 1878 he was elected minister of the united parishes of Stichill and Hume, and was ordained on the 21st of June. Thereafter, for nearly twenty-two years, till his death, which occurred on the 12th of January 1900, he exercised his ministry in Stichill, identifying himself with all the interests of the parish, and enjoying the esteem and affection of his parishioners, which he preserved unbroken till the end. He made himself the friend of all, sharing their joys and sorrows. His relations with those of his parishioners who did not belong to his own congregation were of the most cordial and amicable kind, particularly with his venerable colleague, the Rev. David Cairns, of the United Presbyterian Church, with whom he worked all those years in perfect harmony, and who paid a touching tribute to his memory, in a sermon preached on the Sunday after his death. There was nothing done in the parish without Mr Gunn. Lectures, social meetings, harvest homes, every kind of gathering for instruction or recreation he took a chief part in. He was deeply interested in the cause of education, and, both as a member of the School Board and in his private capacity, encouraged and stimulated teachers and pupils. For some time he assisted Mr Cuthbert, the schoolmaster at Hume, in the teaching of science subjects, with the notable result that at least two of his pupils gained valuable scholarships at South Kensington, distinguished themselves there, and now occupy honourable positions in the geological field. His duties as parish minister were

always conscientiously and faithfully performed. He did not allow his other interests to draw him away from his main work. He visited his people assiduously, and was very attentive to the sick, at whose bedsides his ministrations were greatly valued. He was a model parish minister, and the bond that united him to his people was of the closest kind, as was manifested by the enthusiasm with which the twenty-first anniversary of his ordination was celebrated by all classes, and still more by the universal sympathy that went out towards him in his last illness, and the grief that threw the whole parish into mourning at his death. He will be long remembered in Stichill as a faithful minister and as a constant friend.

In this short memoir particular notice should be taken of his scientific studies and attainments. He had not received any proper scientific education in his earlier years. When he was at college his private teaching occupied all the time he could spare from his professional studies. But in the greater leisure of a country parish his scientific tastes rapidly developed, and he availed himself of every opportunity of adding to his knowledge. He was surrounded by nature in his new home, and interesting natural objects of all kinds thrust themselves upon the observation of the young man fresh from a city life. The woods of Stichill and Newton Don, the wayside flowers, the mosses on the walls, the quarry on the borders of his glebe, the old castle of Hume with all its historical associations, equally appealed to his new-born sense of curiosity and wonder. He began to turn his attention to botany, geology, and archæology, not studying them, however, very systematically, rather adding fact to fact as his daily observations supplied the material. He would have been the first to disclaim any pretension to authority in any of these sciences. He worked simply as a field-naturalist, whose ear was open to the varied voices of Nature around him. It was nature in the concrete that he loved and studied, nature as it presented itself in the manifold objects around him. It was plants that interested him rather than their morphology, and rocks rather than theories of their formation, and by constant use of his opportunities he gradually acquired a very considerable knowledge

of all the plants and minerals in his parish. Nor did he confine his observations to his parish and the surrounding district. He was a member of the Scottish Alpine Botanical Club, and of the Cryptogamic Society of Scotland, and nothing pleased him more than to roam with congenial companions over the hills of Perthshire in search of such treasures as *Saxifraga rivularis*, or *Carex ustulata*, or *Cystopteris montana*, or *Woodsia hyperborea*, picking up at the same time anything in the shape of a rare mineral that he might come across. It was one of the greatest joys of his life when he had the opportunity, in 1898—little more than a year before he died—of taking a more distant flight, and accompanying two of his most intimate friends into the wilds of the Southern Tyrol. There he found a field of botany which threw the woods and waysides of Stichill, and even the Breadalbane Hills, into the shade. To feast his eyes on a great patch of *Primula glutinosa*, in all the beauty of its fragrant violet flowers; to gaze, after toilsome climbing to a lofty height, on the shy, modest *Eritrichium nanum*, most charming of Alpine plants; to revel among Gentians and Androsaces and Soldanellas, was the opening up of a new world to him. It had been the dream of his life to behold with his own eyes the glory of the Alps, and to gather their treasures, and happily his dream was fulfilled before he died. He never tired of recalling the scenes and impressions of that memorable time during the few months that still remained to him.

Mr Gunn possessed an extensive Herbarium, composed for the most part of his own gatherings, but supplemented by those of the late Mr Andrew Brotherstone of Kelso, which he acquired on that botanist's death. A considerable part of the latter, however, was subsequently injured by fire. More noteworthy than his Herbarium was his collection of minerals, which he had carefully classified and named, and which, arranged in a large case along one of the walls, formed a conspicuous feature in his study. In addition to these he possessed a varied collection of antiquarian objects—stone celts, stone hammers, flint implements, whorls, querns, cannon balls shot from Hume Castle, and such like. Anything illustrative of ancient life in Scotland was prized by

him, and when any such object was found in the parish, it was brought as a matter of course to the minister. He was equally interested in the ecclesiastical and civil history of his parish, and was constantly hunting up—either in the manuscript documents of the Register House in Edinburgh, or in the printed volumes of antiquarian societies—new facts bearing upon it, and the knowledge he thus acquired he afterwards turned to good use. He had all the curiosity of an intelligent, inquisitive mind, and nothing came wrong to him that satisfied his thirst for knowledge.

The year after he came to Stichill, Mr Gunn was elected a member of the Berwickshire Naturalists' Club. For a considerable time he took little active part in its work beyond attending its meetings, and making use of the opportunities for scientific study which they afforded him. His first contribution to the Proceedings was a short obituary notice of his friend and neighbour, the Rev. William Stobbs, minister of Gordon, who died in 1885, and whom some of us remember as a man of great kindheartedness and originality. Thereafter, nothing from his pen appeared in our pages for many years. He was, however, becoming gradually known to the members of the Club, not only as one of the most sociable of men and pleasantest of companions, but as one who had much more than an average knowledge of the subjects that the Club mainly concerned itself with. And so when Dr Hardy was beginning to feel the weight of his many years, and was no longer able to discharge all the duties devolving upon him as Secretary, and when it therefore became necessary to appoint some one as his assistant, the eyes of those who were most capable of judging turned on Mr Gunn, and it is a proof of the confidence the Club reposed in him that he was unanimously elected Joint Secretary in October 1896.

He was well fitted for such a post. He had a certain amount of spare time after all his duties to his parish were discharged, for its population did not exceed 650 souls, and, in addition to being competent from a scientific and literary point of view, he was well known to many of the members, and he possessed that affable and conciliatory manner which is so necessary in the Secretary of a large Society. It was

with reluctance that he accepted office, for he was diffident of his own powers, but he yielded at last to the clearly expressed desire of the Club, and his scruples were partly removed by the knowledge that Dr Hardy was anxious that he should be appointed. He entered on his new duties with characteristic energy, giving his colleague every assistance in his power, and working with him in the most harmonious and cordial manner. But it was not till after Dr Hardy's death that it was seen how completely the confidence of the Club was justified. He threw himself heart and soul into the work which now entirely devolved upon him, making arrangements for the meetings, conducting a voluminous correspondence, and attending to the multitudinous details, which consumed so much of his time, and yet which could not be neglected. The issue of the Proceedings of the Club had fallen into arrear, but he worked diligently and laboriously, and issued one Part after another until the arrears were wiped off. His own contributions in the form of set papers, as distinct from reports of meetings, were not numerous, but from the date of his association with Dr Hardy in the Secretaryship, his time was too fully occupied to permit of much original writing. His presidential address, delivered at the Annual Meeting in October 1894, had for its subject the early history of Stichill down to the year 1627, and is a long, minute, and clear account of the parish, which cost him much laborious investigation. He gathered together from many sources all the facts bearing on the subject that can now be ascertained, and he scrupulously cited his authority for every statement of importance. The paper is a valuable chapter of local history, and takes a place among the best presidential addresses preserved in the Proceedings of the Club. In 1897 he contributed a somewhat similar paper on the ecclesiastical history of the parish of Hume, now united to that of Stichill. This paper displays the same features as the other, careful accuracy, extensive survey of documents, clearness of presentation, and a deep feeling of sympathy with his subject. It is to be desired that the history of all our Border parishes should be as fully treated, and by as competent hands. If Mr Gunn's life had been spared, he would doubtless have added

from year to year further contributions to the annals of the Club, in whose work and prosperity he was so deeply interested.

Mr Gunn turned his knowledge of botany to practical account in his manse garden, where he had collected a large number of uncommon plants. He had several rockeries, on which he grew Alpines with much success, and it was these that received his special attention. Latterly he had taken a fancy for cultivating hardy ferns, of which he possessed many good varieties. It was always worth while, at any time in spring or summer, to visit his garden, for he was sure to have many things of beauty or variety to show the visitor, and it was delightful to see the enthusiasm with which he displayed his treasures. No one who cared for plants went empty handed away.

It remains to say a word with regard to Mr Gunn's character, and one may speak of this without any fear of falling into exaggeration. It was the genuineness and guilelessness and loveableness of the *man* that specially endeared him to his friends. He was one of the truest and kindest and friendliest of souls, one whose life was in all things simple and honourable and pure. There was a peculiar attraction about him that was felt by both old and young. Children were specially sensitive to it; he made friends with them at once; they were drawn to him by a magnetic sympathy. And older people were attracted in the same way. He was a man who had not only many acquaintances, but many friends. And to them all he was as true as steel; his friendship was not sometimes cool and sometimes warm, according to the mood he might be in; he was always the same kindly, sympathetic, friendly man. And so he did not lose his friends. He might differ from them, for he had his own firm opinions on what was right; but they respected him for that, and the truest friendship is based on respect. Everyone who was brought into contact with him recognised his straightforwardness. He abhorred all ways that were tricky and mean. In public and in private life he was the same. You could always depend upon him. He could be trusted to do what he thought to be right, even though his own interest might lie in the other direction.

And a marked feature in his character was his unselfishness. He would go out of his way to serve another, not thinking of his own convenience, sparing himself no pains or trouble, if he could oblige or gratify another in any way. He might be busy, or he might be tired, but he was always ready to do for a friend what he would not have taken the trouble to do for himself. At the meetings of the Club he was a delightful companion, intelligent, genial, humorous, anxious that every meeting might be a success, and contributing much by his own presence to make it so. The Club has lost one who was not only an efficient and devoted Secretary, but one whose influence went far in the direction of binding it together, both as a scientific society and as a brotherhood of friends. There could be only one feeling among its members when the announcement of his death was made, a universal feeling of regret, joined in the case of many to the pain of a genuine sorrow. To the great majority it came as a surprise. He had been working up to within little more than two months of his death, and those who had heard of his illness had little reason to apprehend that it would terminate fatally. He had fallen, however, into such a state of weakness from inability to take nourishment that, though more favourable symptoms appeared towards the end, he was unable to rally. His thoughts during his last days were much occupied with the affairs of the Club, and with his parish and his friends. He died as he had lived, thinking of others. *Desiderandus quidem interiit, sed non lugendus.* He had led a true, useful, honourable, God-fearing life, and he has left a fragrant memory behind him that will long be cherished by all who knew him.

Henry Hewat Craw, West Foulden. By CHARLES
STUART, M.D., Chirnside.

It is with deep regret that I record the death of Mr Craw, a zealous member of the Berwickshire Naturalists' Club, on the 23rd February 1900, whose presence will be much missed by many resident in the Eastern Borders. Notwithstanding the inclemency of the weather, his funeral at Foulden Churchyard, on the 27th of that month, was attended by a representative assembly from far and near. For some time back he had been in failing health. Influenza still further depressed him, and apoplexy and paralysis terminated his earthly career in a few hours.

Never very robust, he had a wiry constitution, which enabled him to get through much business of his own, as well as that of other people. The large sheep farm of Rawburn, in Lammermoor, extending to 6000 acres, would have been enough for any single man; but when we consider that West Foulden and Whitsome Hill (two of the best managed places in the Merse) were also under his care, it will be seen that he was far from an idle man.

He was possessed of a cultivated intelligence. His out-of-door life afforded him many opportunities of observing Nature, which he was not slow in taking advantage of. He confirmed by observation the presence of the true Alpine Hare in Lammermoor, at Byre Cleugh, by specimens shot there and at other places. Also many other facts in natural history recorded in our Proceedings. He was deeply read in history, especially relative to the old wars, his fine library of books affording him information not often found in a private house. He took great pleasure in antiquarian investigations. The remains of old British Camps along the face of Bunkle Edge, in Lammermoor, and in many other places in Great Britain, had been carefully examined by

him. Stone implements, collected on his farms and elsewhere, were treasured by him. Botanically, he knew the stations for the *Linnaea borealis*, *Trientalis*, *Europaea*, and *Vicia orobus*, three representative plants in the Lammermoor region, near Rawburn.

From his father he inherited a genius as a pomologist, and possessed a very fine collection of apples suitable for the climate of the Eastern Borders, derived from the best sources, and grown on black wooden fences, hollow in the centre. For high colour and quality his fruit was unsurpassed, and at an International Fruit Show, in Edinburgh, his apples took a first prize, when shown against those from a more favoured climate in the south. He was a skilled grafter, many of his trees being models of high cultivation, and prolific to an extraordinary degree.

For many years he has sent a record of the rainfall at West Foulden and Rawburn to enrich our "Proceedings," proving that we live in a tolerably dry corner of Scotland.

Among all his business, his work people were never forgotten, and in sickness his quiet kindness will be much missed by many of them. The wreath laid on the grave was a true proof of the estimation in which they held him:—"In memory of our dear friend," etc., etc.

"The world goes ever on and on :
What boots it friend to thee or me ?
It still will go, when we are gone,
And go no jot less merrily.
The faces all have shadows grown,
The voices faint as evening's sighs,
The world a world of ghosts alone,
But still the motly rush goes by ;
Ever new and ever old,
With the wherefore still untold."

Meteorological Observations at Cheswick, 1899. By MAJOR-
GENERAL SIR WILLIAM CROSSMAN, K.C.M.G.

*Lat. 55° 42' 37" N. Long. 1° 57' 29" W. One mile from and 100 feet above sea.

Thermometer 4' above ground—shaded.

Rain Gauge—Diameter of Funnel, 5". Height of top above ground, 7½".

1899.	TEMPERATURE.						RAINFALL.			DIRECTION OF WIND.			
	Absolute.		Averages.			No. of Days 32° or under.	Total No. of Inches during Month.	Greatest Fall in 24 hours, and Date.	No. of Days '01 inch or more fell.	N.	E.	S.	W.
										to	to	to	to
	Max.	Min.	Max.	Min.	Month					E. S.	E. S.	W.	N.
MONTH.	Deg.	Deg.	Deg.	Deg.	Deg.					Days.	Days.	Days.	Days.
January	52	18	43·7	32·3	38·	18	2·22	·49 on 21st	23	1	7	8	15
Feb'y.	57	22	46·6	33·	39·8	15	1·33	·35 on 16th	15	6	8	7	7
March	60	16	49·3	33·5	41·4	12	1·58	·31 on 25th	17	5	3	9	14
April	63	28	53·2	37·3	45·25	6	2·44	·40 on 6th	19	11	2	4	13
May	75	32	55·9	39·9	47·9	2	3·19	·68 on 19th	18	20	3	5	3
June	79	36	68·9	47·7	58·3		2·07	·99 on 29th	10	10	7	4	9
July	80	47	70·9	52·8	61·9		2·91	1·19 on 1st	15	9	3	9	10
August	84	39	70·3	51·4	60·9		1·54	·49 on 27th	9	7	15	3	6
Sept.	76	32	63·6	44·7	54·1	1	2·83	·76 on 30th	21	1	1	9	19
October	69	28	58·2	40·	49·1	3	1·28	·85 on 1st	10	2	5	13	11
Nov.	60	28	52·1	40·3	46·2	3	1·62	·31 on 24th	14	3	4	17	6
Dec.	55	14	39·5	28·9	34·2	20	2·89	·56 on 29th	20	1	16	2	12
Totals						80	25·90		191	76	74	90	125

REMARKS.

Average Temperature of year, 48°.

Barometer highest, 30·82, on 26th January. Lowest, 28·30, on 29th December.

Thermometer highest, 84°, on 2nd August. Lowest, 14°, on 13th December.

Number of days at or below freezing point, 80.

First frost of winter 1898-9 on 10th November; last frost, 5th May 1899. First frost of winter 1899-1900, 29th September 1899.

* N.B.—The Latitude and Longitude hitherto given in these returns from Cheswick have been put down in error. The above is the correct reading, and members are requested to correct their former volumes accordingly.

CHESWICK, March 1900.

Notes of Rainfall and Temperature at West Foulden and Rawburn during 1899. By CHARLES STUART, M.D., from the late Mr H. H. Craw's records.

		WEST FOULDEN.				RAWBURN.			
		RAINFALL.		TEMPERATURE.		RAINFALL.		TEMPERATURE.	
		Ins.	100ths.	Max.	Min.	Ins.	100ths.	Max.	Min.
January	...	2	67	49½	19	4	0	50	20
February	...	1	22	55	24	2	0	48	22
March	...	1	63	66	18	2	50	62	21
April	...	2	10	61	17	2	60	63	22
May	...	3	28	73	32	4	0	70	30
June	...	1	75	78	38	1	0	74	32
July	...	2	52	79	42	2	70	76	44
August	...	1	0	82½	40	0	40	78	42
September	...	3	11	73	34	4	30	68	34
October	...	1	54	66	28	1	90	63	29
November	...	2	7	60	29	3	0	55	28
December	...	2	81	53	15	3	50	40	20
		25	70	82½°	15°	31	90	78°	20°

NOTE.

West Foulden is six miles from sea at Berwick-on-Tweed; 250 feet above sea-level.

Rawburn is 24 miles from sea; 920 feet above sea-level.

Donations to the Club, and Exchanges, from kindred Societies and Private Persons, during 1899 and up to June 1900.

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and 5.

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Bidrag till frågan Om Vägarna för Bacterium coli commune's inträngande i blåsan Försök till frågans experimentella lösning, med speciell hänsyn till Möjligheterna afen direkt genomvandring från rectum. af R Faltin 1896.

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Do.	do.	1873, Vol. II.	do.
Do.	do.	1870, Vol. I.	do.
Do.	do.	1870, Vol. III.	do.
Do.	do.	1872, Vol. I.	do.
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Do.	do.	1866	do.
Do.	do.	1874, Vol. II.	do.

Öfversigt af de inom Skandinavien (Sverige och Norrige) anträffade Hvalartade Däggdjur (Cetacea) af W. Lilljeborg.

Do.	do.	do.	do.
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Epicrisis Generis Hieraciorum. Elias Fries.

Om tvänne i Sverige hittills misskända arter af växtsläktet Rumex af Rob. Fristedt och Rob. Fries.

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- Embryologiska Studier af Carl Bovallius.
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- Bericht über einen Ausflug in den südöstlichen Theil des Kaukasus Von Dr Hjalmar Sjögren in Baku Oct.-Nov. 1889.
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- Bidrag Till Kännedomen om Nematoderna 1893 af L. A. Jägerskiöld.
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Novitiae Florae Gotlandicae P. P. Auctor P. Conr. Afzelius.
Om möjligheten, enlight vegetabiliernes naturliga analogier,
a priori bestänma deras egenskaper och verkningar på
menschliga organismen af Carl Josua Wretholm 1834.

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Undersökning af svafvets linespektrum af E. Rancken 1897.

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General Statement of Account—October 1899.

INCOME.

		£	s.	d.	£	s.	d.
Balance due from Treasurer as per last account	2	7	4			
On Deposit with Commercial Bank of Scotland	200	0	0			
Interest thereon	3	13	4			
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Entrance Fees	10	0	0			
Subscriptions	115	3	0			
Back Numbers of Proceedings sold, etc.		4	7	0			
					£362	16	8

EXPENDITURE.

Paid for Printing Proceedings for 1896		41	19	9			
Do. do. for 1897		107	12	6			
Do. do. for 1898		96	19	0			
Engraving Plates, etc. do.		34	2	6			
Printing Circulars and Stationery, Postages, Carriages, etc., including removal of Books, etc., from late Dr Hardy's		32	14	7			
Berwick Salmon Fisheries Co. for Salmon		9	19	7			
Berwick Museum, Rent of Room, etc.		3	10	0			
Expenses of Farne Island Meeting		12	17	0			
Expenses of other Meetings ..		18	19	9			
Balance in hands of Treasurer, carried forward		4	2	0			
					£362	16	8

Examined and found correct,

ELLIOT R. SMAIL.

11th October 1899.

Alphabetical List of Places visited by the Club since its formation in 1831.

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- Abbey St. Bathans. 1832, I. 6; 1834, I. 35; 1841, I. 247;
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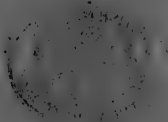
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G.B.







PROCEEDINGS
OF THE
BERWICKSHIRE NATURALISTS' CLUB.

*Address delivered to the Berwickshire Naturalists' Club
at Berwick, December 20th 1900. By ARTHUR H.
EVANS, M.A., F.Z.S., Cambridge.*

GENTLEMEN,

The year of my Presidency is now fast drawing to its close, and the chief—and very pleasant—duty still remaining to be performed is that of thanking you for the great honour that you have done me in choosing me for the post. Residing as I do at a considerable distance from the Borders, I fear that I have only partly been able to fulfil the various functions that fall to the lot of a President, and I must therefore beg you to look with a lenient eye on my shortcomings, and to believe that I have done my best, as far as in me lay, to promote the prosperity of our old and well-known Society. But I am fully sensible of the fact that my best endeavours would have been in vain had it not been for the kind and thoughtful co-operation of the

members of the Club—for which I am truly grateful—and in particular for the invaluable assistance and guidance that I have received from its officers, both past and present. Our Organizing Secretary has, as you well know, performed his part to the admiration of all; and I am sure that I speak in the name of the whole Club in thanking him for what he has done, and in sincerely hoping that he may be induced to continue in office, not only for the coming year, but for many years subsequently. And if I mention our Organizing Secretary first, it is only because his name has priority in the list of permanent officials. Our Editing Secretary has been untiring in his endeavours to further our interests, and, even when gathering information for us outside of the kingdom, has done us the honour of leaving a most admirable substitute behind. Nor must the Treasurer be omitted, to whom perhaps the most serious of all the duties pertains: to the excellence of his management, willingly or unwillingly we must certainly “subscribe.” Finally my thanks are due to our late President, who so ably filled my place when I was unavoidably absent at the first meeting of the season.

During the past year we have experienced the greatest of losses in the death of our friend and Secretary, the Rev. George Gunn, the knowledge of whose admirable work is not confined to us alone; for his conscientious and painstaking labours have been highly appreciated by a wide circle both of friends and parishioners, in Edinburgh and in the country. His tactful management of the Club affairs, his unselfish discharge of parochial and scholastic duties, his kindness and his charity, mark the man as well as the minister; while his literary and scientific attainments were such as to justify the very high opinion that had been formed of them in his earlier life. As a fellow-member of this and of other learned Societies, I am glad to have the opportunity of adding my slight tribute to Mr Gunn’s memory.

The choice of subjects for an Address to an audience composed of members devoted to such varied intellectual pursuits, as are those of the Berwickshire Naturalists' Club, is so wide, and the subjects themselves of so diverse a nature, that it is no easy matter to select one which shall be at the same time appropriate to the occasion and of sufficiently general interest to the hearers.

Considering, however, how closely our former Secretary and lamented friend, Dr Hardy, was connected for many years of his arduous life with the preparation of annual reports on the Migration of Birds, and in view of the fresh impetus now given to the study of that most fascinating branch of Ornithology by the elaborate and careful "Digest" of the Reports of the British Association "Migration Committee" (1880-1887) by Mr W. E. Clarke, together with the admirable supplementary "Analysis" on Migration in Ireland, just published by Mr R. M. Barrington, I think that it may not be out of place to devote the main portion of my Address to the discussion of the facts ascertained by various observers, and in especial to the causes of migration and the ways of migratory birds. Surely it may be considered peculiarly fitting, in the very year when a special meeting has been convened to unveil the Memorial Window to Dr Hardy at Coldingham, to take the opportunity of discoursing upon a branch of learning in which he was ever wont to show the greatest interest.

Before entering upon the details of the inquiry, it is most needful to pay heed to the emphatic warning of Professor Newton, in his "Dictionary of Birds" (p. 547), that the two subjects of Migration and Geographical Distribution of Birds must by no means be confounded, as has not unfrequently been done by writers in the past. It is obvious that the former depends to a considerable extent upon the latter; but Geographical Distribution, that is, the manner in which birds are dispersed over the face of the globe, is a perfectly distinct

matter from those normal and annual changes of quarters to and from the breeding haunts, which we collectively denominate by the term Migration.

The two, however, have this much in common that they both involve to a greater or less extent the idea of "Expansion," and hence it is, no doubt, that so much confusion has arisen.

Wherever the original home of any group or species of birds may have been, it is clear that, as the numbers multiplied by natural and ordinary reproduction, an increase in the area of habitation would be the necessary result. Granted, for the sake of argument, that no adverse circumstances acted as obstacles in any one direction more than another, the tendency would be to circular expansion, on every radius, as it were, of a circle; a species might thus extend its range and eventually have a geographical distribution differing in some degree from the original, which would undoubtedly to that extent affect the direction of migration.

This expansion, however, is not in itself of a migratory nature. By the term Migration we imply that after the parents have succeeded in rearing their broods, the great majority both of old and young leave their summer quarters for other climes, to return for the next breeding season. Possibly, indeed, all birds as species (though not necessarily as individuals) act thus to a greater or less degree; but, before we can state this as a positive fact, much more must be ascertained regarding their movements, especially in the countries adjoining the tropics, and in the Southern Hemisphere.

Before migration takes place flocks are commonly formed,* the members of which journey in company to

* The young of most species being driven away whether by the parents (as in some cases they certainly are) or merely by the need of obtaining their food, do not at first flock—the flocking seems to be brought about by their meeting at places where food can most readily be got.

their winter homes. The object of this may be partly the protection which greater numbers afford; partly the comparative ease of procuring food when many individuals are bent on the same quest, and notify the results to their neighbours; partly the guidance given by the stronger to the weaker of the band. But here we must pause to note that the stronger birds are not necessarily the older; on the contrary, facts go to show that the young not only travel by different routes to their elders, but usually leave the land of their summer sojourn before the adults, though in such cases as that of our common Cuckoo the reverse is very noticeable. The longer winged individuals of a species appear often to migrate to a greater distance than their fellows, whether it be by starting at an earlier date, or by outstripping them owing to their greater mechanical powers of flight. This being so, it is far from universally true—if true at all—that the older birds act as leaders to those of tender age, a theory which has been broached by more than one writer on the subject. And in truth how the bands find their way is a question that as yet remains unanswered.

Next in order we must consider the reasons which induce birds thus to change their quarters with such great regularity.

There can be little doubt that the main cause of the movements is the growing scarcity of the food supply, though climatic conditions must certainly be taken into account, the more so as the abundance or lack of nutriment depends in the long run on the season and the weather. The rigours of an Arctic or an Antarctic winter would no doubt sooner or later be sufficient to drive all winged creatures to warmer regions; but it is plain that they do not remain in their breeding haunts until the temperature is of itself sufficiently low to expel them. On the contrary it is the gradually increasing cold of

the waning season that little by little diminishes the food supply; insect life becomes comparatively scarce; fruits ripen and decay; and the farthest outposts of the army of migrants become untenable, or untenable for any large number of individuals; while those that are the first to take flight press from the rear upon their nearest neighbours, who in like manner drive forward those that are at a still greater distance. Flock follows flock to warmer districts, until finally all have left their summer homes, or until only that small proportion remains which the country can support under the changed conditions, the latter perhaps not including a single individual which has been bred in the same parts, unless it be such as have learnt by dint of experience that they can rely on a more or less regular supply of food around the habitations of man.

How little effect ordinary weather changes have on the arrival and departure of birds may be seen in the case of such species as the Guillemot and the Puffin, which annually reach their breeding haunts almost to a day, and leave them again with equal punctuality—a phenomenon which may be advantageously studied at the Farne Islands by many of our members.

To talk of “instinct” as being the cause of migration is but to beg the question. Instinct gives rise to habits, and these may be acquired by the young from the parent by Heredity, or inherited capacity for action; it is instinct doubtless in a sense that teaches the bird to go, when to go, and where to go; but instinct of itself would produce no seasonal movements, if there were no prior experiences which gave the instinct birth, or, if I may be allowed to use the expression, “started the machine.” A machine moves a weight; but it is the power which acts upon the machine that corresponds to the cause of migration; the machine corresponds to the instinct.

For the return movements in spring similar reasons have often been assigned, though of a converse nature; the climate proves excessively hot, proper food supplies proportionate to the increase in numbers are lacking; in short, the birds find the cooler regions more suitable during the period of reproduction. But once again we must remember that many species breed under a tropical sun, and that of these certain can hardly be said to migrate in the strict sense of the word—if indeed they do so at all—while those that attain the highest latitudes of the Northern Hemisphere in summer are often found to overpass their fellows on migration, and to reach the most southerly climes in winter, where the heat at least would hardly incommode them in summer. Moreover, it is evident that many individuals press on beyond the limits which seem to supply all that could be desired for nesting purposes; but to understand this we need only consider that an area, which would satisfy the requirements of a very considerable population, is found lacking when demands are made upon it in excess of its productive powers. For the return migration then it appears we must seek further cases which are not at present evident.

To sum up, we may be justified in assigning the main cause of autumnal migration to some deficiency in the food supply, while it is evident that this failure, or partial failure, will occur at different periods of different years, in accordance with the severity of the weather; and thus we may account with ease for the earlier departure of birds in certain seasons. In other words, "Cycles of Weather," if such there be, may be found with matured experience to be coincident with "Cycles of Migration."

Such being, therefore, the causes predisposing to migration, it remains to consider in what direction the movements will presumably take place, and how far our theories are in accordance with ascertained facts. The

path followed by any species may be called its "Line of Migration," and the coincidence of two or more of these lines may be expressed by the term "Route."

We find accordingly that the main stream of migration normally flows in a direction more or less southerly in autumn, and more or less northerly in spring, which is precisely what might have been expected from our data; but the question is complicated by the fact that large numbers of birds fail to steer a course directly to the south or to the north, as for instance in the case of the Curlew Sandpiper, well known upon our shores on passage, though its breeding quarters appear to be entirely confined to a comparatively small portion of the Arctic Regions of Asia.

An explanation may, however, be found in the theory of "Lines of least resistance," or in other words we may assume that the flocks will follow that course in which they find their progress least impeded by any geographical or climatic obstructions. High mountains, for example, may prove insuperable obstacles to birds of weaker or more lowly flight, wide oceans may be found impossible to cross, or strong winds may cause some slight divergence in the angle of direction, a divergence which will increase proportionately the further the flocks travel.

We thus should naturally expect to find, and to some extent we do find, a preference shown by various species for river valleys—especially when of considerable breadth—for the coast-lines of continents, and for open plains, if not of exceptional sterility. But once more we must take into consideration the above-mentioned increase in the breeding area of any form—as far as expansion to the east or west is concerned—which will cause the surplus population, thrust outwards during successive seasons of reproduction, to take its departure in autumn over somewhat different lines from its predecessors. Consequently we are not astonished to discover that the "Lines of Flight" and "Routes" of birds are many and

diverse, and that much has been written upon the subject by various authors, of whom certain have undertaken to determine with more or less exactitude the precise directions that the flocks should follow. A greater mass of information must, however, be accumulated before we are enabled to accept any generalizations of this description, and we must be content for the present to indicate certain definite courses which birds seem to follow to the comparative exclusion of others, leaving it for future generations to continue the work which we have begun. Here let us take a glance at what has been done in Britain. Through the instrumentality of the British Association a Committee was formed to collect observations upon birds at the various lighthouses and light-ships around our coasts, observations which were continued from 1880 to 1887 inclusive. From the information thus gained we might consider ourselves justified in laying down certain rules which govern the immigration and emigration of birds as regards our shores, and this may no doubt be done to a considerable extent without serious error; but we must not fail to take into full account the exceptionally favourable and convenient position of our lights, the paucity of observers, and the fact that other stations might afford equally valuable, or even contradictory, results if equal diligence was used for a similar length of time.*

There is, moreover, the question of the height at which birds fly, and consequently what proportion of them fail altogether to be observed owing to their altitude; whether in fact we only notice those forced down from above by such causes as adverse weather. And in this connection it may be mentioned that birds have been noticed crossing the field of a telescope directed towards the sun or the moon at an estimated height of from 1500—15,000 feet.

* Similar observations have been carried on, and are still being carried on, at the Danish light-stations,

Further, it has yet to be determined to what extent light of itself attracts the flocks which happen to be on its level, or whether it ever draws them down from the upper regions.

It will have doubtless been remarked that the statements hitherto made, and the conclusions drawn therefrom, have had almost exclusive reference to the Northern Hemisphere; but such must needs be the case in the present state of our knowledge, for we cannot as yet judge accurately of what takes place to the south of the Equator, owing to the absence of precise information as to the movements of birds there, and the comparatively small number of qualified observers in those regions interested in the subject.

Yet even thus it is allowable to express an opinion—though as yet only an opinion—that, *mutatis mutandis*, the state of affairs in the Southern Hemisphere will not prove very dissimilar to that in the Northern, since the evidence, such as it is, afforded by New Zealand is to the foregoing effect.

Migration of the nature described in the foregoing paragraphs may be called Normal Migration, while the members composing the flocks are the True Migrants. At the same time it must be observed that all birds do not cover equal distances on their journeys. It is probable, with regard to many species, that the individuals which are most capable of flight, or perhaps those that start upon their travels earliest, go further than the remainder are able to do, and so outstrip their fellows both in autumn and spring; but, leaving such out of consideration for the moment, it is evident that the general movements will result in a shifting of the bird population to approximately equal distances in the case of the true migrants, all of which leave their summer homes when reproduction is over, and, after exhibiting themselves in the character of birds of passage in the

countries short of their destination, reach districts far removed from their several points of departure.

Far different is it with the Partial Migrants. By this expression we denote those species of which, though the majority leave the country under consideration, yet a certain proportion seem to be resident throughout the year. I say "seem," because in many instances what appear to be partial migrants may prove to be true migrants; or, in other words, all the summer residents—omitting exceptional cases—may with one accord leave their breeding quarters, while their places are supplied by other individuals of the same species, which have been bred in a colder climate. Of this tendency the Song Thrush and Skylark afford well-known examples. Indeed, it is perfectly possible that partial migrants are non-existent, and that the above explanation holds universally.

Lastly, there are the Irregular Migrants, whose very name implies that some exceptional circumstances have prevailed upon them to alter their course of migration to one entirely at variance with the normal, or even forced them to migrate in the first instance. Such may no doubt be ignored by the student of the ordinary lines of migration; nevertheless their actions are a matter of the greatest interest to ornithologists, and may prove to be governed by certain laws of periodicity, possibly themselves depending on periodicity in the weather of some nature as yet unexplained, and on a consequent failure in the food supply. At recurring intervals, for instance, hordes of Pallas' Sand Grouse spread over Europe from the Steppes of Asia; with much less regularity individual members of certain American species pay their visits to our shores, and even to those on the Continent; and, at least in the case of the latter, we can hardly fail to believe that the agency of stormy weather has contributed to their appearance.

Many other subsidiary points fall to the student of migration to consider, and of these it may be sufficient

to mention the rate at which birds fly—very differently estimated by various writers—the extent to which their powers of vision tell upon their movements, and the “rushes” or sudden “inpourings” of multitudes of individuals at some particular spot, a phenomenon constantly brought under the notice of observers at lighthouses; but the discussion of these would necessitate a most undesirable prolongation of my Address.

In conclusion, I would urge upon my hearers that there is yet much more to be learnt with regard to the subject, and that there is the greatest need for them to observe (and to observe intelligently) the movements of our native species, while carefully considering to what these observations and those of others may lead.

To take an example suggested by Professor Newton, it would be more than interesting to know what happens to the early broods of the Skylark, and where all its young betake themselves when they are fledged; to ascertain more fully what happens to all the Guillemots and Razorbills during the winter; or to keep records of appearances and disappearances of birds in concert with some observant friend in the far north or south. A regular report on the Farne Island birds would also be of general interest.

It is now my pleasant duty to nominate the President for the ensuing year, and I am sure that all our members will join me in hailing with delight the acceptance of the post by our friend and neighbour, Sir George Douglas, so well known for his literary achievements. The services which others of his name have rendered to the Club in past years will be within the recollection of most of us, and in no way can we more fitly inaugurate the new century than by once more gathering for our annual forays under the banner of a DOUGLAS.

*Reports of the Meetings of the Berwickshire Naturalists'
Club for 1900.*

BERWICK.

A SPECIAL MEETING was held in the Museum, at Berwick-on-Tweed, on Thursday, 3rd May, being summoned by the Hon. Treasurer, in consequence of the vacancy in the Club's Secretaryship, caused by the death of the Rev. George Gunn of Stichill.

The following members were present:—Mr George Bolam, F.Z.S., Berwick, Treasurer; Mr W. Boyd, Faldonside; Mr J. Ferguson, F.S.A. Scot., Duns; Colonel Milne Home of Wedderburn; Mr W. T. Hindmarsh, F.L.S., Alnwick; Mr G. P. Hughes, Middleton Hall; Mr J. S. Mack, Coveyheugh; Mr B. Morton, Sunderland; Captain Norman, R.N., Berwick; Mr J. L. Newbigin, Alnwick; Mr J. Smail, F.S.A. Scot., Edinburgh; Mr T. B. Short, Berwick; Mr J. L. Campbell Swinton of Kimmerghame; Mr W. Wilson of Berwick; Mr E. Willoby, Berwick, and others.

In the absence of the President, the ex-President, Mr J. Smail, was voted to the chair.

ELECTION OF SECRETARIES.

The Chairman explained the special object of the meeting, alluding in feeling terms to the loss of the Club by Mr Gunn's death.

After discussion, it was moved by Captain Norman, and seconded by Colonel Milne Home, that the Secretarial duties be divided, and that Mr G. G. Butler of Ewart Park be appointed Editing Secretary, for the purpose of editorship and arrangement of the "Transactions." This motion was carried unanimously.

Mr Mack of Coveyheugh then moved that Colonel Milne Home be appointed Organizing Secretary. This resolution was seconded by the Chairman and supported by Captain Norman, and carried unanimously.

Colonel Milne Home, in accepting office, stated he could not bind himself to do so for more than the current year, and expressed a hope that a younger member would, before its close, be fixed on to succeed him.

ANCIENT CIST AT COCKLAW.

Captain Norman reported that an ancient British Cist had recently been found on the farm of High Cocklaw, within the liberties of Berwick. This was the fourth that had been found on the same farm. This one, however, was almost of special interest, inasmuch as it was found to contain an urn inside, with a large number of jet beads, and also two flint beads.

On hearing of the discovery, Captain Norman lost no time in visiting it. It was composed on the usual type, having a large slab on top, stone sides, and an earth bottom. In the course of centuries the whole of the bones had disappeared, and the action of the worms had filled the whole of the cist with soil. Captain Norman communicated with Canon Greenwell, who informed him that undoubtedly the cist was the burial place of a female of the bronze age. The type was very well known, but at the same time it was not a common one, and might be regarded as a distinctly interesting find. Captain Norman hoped to obtain the urn for preservation in the Museum.

NEW HABITATION FOR "*LINNEA BOREALIS*."

Mr Boyd exhibited a splendid specimen of the plant *Linnea Borealis*, which, it was stated, is a purely Highland Alpine plant, and one that is rarely, if ever, found in these parts. Mr Boyd discovered the plant at Wooden Hill.

On the motion of Mr Campbell-Swinton, a hearty vote of thanks was accorded to the Chairman for presiding.

The members afterwards dined together in the King's Arms Hotel.

ALNWICK.

THE FIRST ORDINARY MEETING for this year (1900) was held at Alnwick, on Wednesday, 6th June, and was numerously attended. It will be remembered by those who had the good fortune to be there as one of the most pleasant in the Club's records, for beautiful weather prevailed, and, favoured as the members were with the permission of His Grace the Duke of Northumberland to visit Alnwick Castle, the historic home of the House of Northumberland, and the surrounding parks, there was a great deal both to interest and to edify.

Amongst those present were:—Mr Arthur H. Evans, M.A., F.Z.S., President; Colonel Milne Home, Organizing Secretary, Caldra, Duns; Mr G. G. Butler, M.A., Ewart Park, Editing Secretary, and Mrs G. G. Butler; Mr Geo. Bolam, F.Z.S., Berwick, Treasurer; Mr Amos, Alnwick; Mr Johannes Albe, Duns; Mr Robert Alexander, Duns; Mr John Bolam, Bilton House, Lesbury; Dr Charles Clark Burman, Alnwick; Mr William B. Boyd, Faldonside, Melrose; Mr Robert Brown, Duns; Mr William Cuttle, Galashiels; Mr M. H. Dand, Hauxley; Mr William Dunn, Redden; Mr George Fortune and Miss Fortune, Duns; Captain Forbes, R.N., Berwick; the Rev. J. A. Findlay, Sprouston; Mr J.

Ferguson, Duns; Mr Arthur Giles, Edinburgh; Mr Robert Huggup, Hedgeley; Mr G. P. Hughes, Middleton Hall; Mr William T. Hindmarsh, Alnbank, Alnwick; Mr J. Crawford Hodgson, Alnwick; Mr B. Morton, Sunderland; Mr William Maddan, Berwick; Mr and Mrs R. Middlemas, Alnwick; Mr R. Middlemas, junior, Alnwick; Mr J. L. Newbiggin, Alnwick; Mr George Reavell, junior, Alnwick; Mr H. H. Ratcliffe, Stacksteads, Lancashire; Mr A. Riddle, Yeavinger; Mr James A. Somervail, Broomdykes; Mr T. B. Short, Berwick; Mr Alexander Steven, Berwick; Mr James Smail, Edinburgh; Mr Geo. Skelly, Alnwick; Mr J. Thompson, Shawdon Cottage, Yorks; Mr Andrew Thompson, Glanton; Mr John Turnbull, Galashiels; Mr G. H. Thompson, Alnwick; Mr Thos. Tate, Allerburn, Alnwick; Mr John Tate, Oaklands, Alnwick; the Rev. Edward Thornton, vicar of Ancroft; Mr Gerrard Thornton, Ancroft; Mr David Hume, Thornton, Berwick; Misses Veitch, Duns; Mr D. Veitch, Duns; Mr D. McB. Watson, Hawick; Mr Humphery Willyams, Alnwick; Mr J. Wilson, Duns; Mr W. Weston, Alnwick; Mr A. Yeoman, Newcastle.

Assembled at the Barbican of the Castle at 11 o'clock, the company were conducted round the walls and towers by Mr George Skelly, who intelligently pointed out the many objects of historic and architectural interest. Commencing with the Barbican, he explained the dates when the various towers which flank the Castle were built, distinguishing the different classes of architecture and building, and throwing in a little anecdote here and there to make clear his descriptions. To the Octagon Towers, which command the entrance to the Keep, he made special reference, mentioning that their erection might be said to mark the extension of the ancient Norman structure, inaugurated by the Percies. The Prudhoe tower, so recently added, was examined with curiosity. It harmonises well with the other portions of the stronghold which was described as "a most strong fortress" so long ago as 1135. The external features having been examined, Mr Willyams, Constable of the Castle, and Mr J. C. Hodgson, Librarian, led the party over the state apartments, which were viewed with admiration. The grand staircase, with its solid marble steps and beautifully coloured





BRIZLEE TOWER.





HULNE PRIORY.

walls, drew much attention, as did the pictures and the artistic and elaborate decoration of the various rooms. Quite a long time was spent in the library, where the thousands of books—rare and extremely valuable, many of them—formed objects of interest; and further enjoyment was obtained from the museums, the armoury, and the Egyptian collections.

The Castle thoroughly examined, most of the members formed a brake party for the "Long Drive," round the extensive, prettily-wooded parks. Here the deer were seen to advantage, and a lovely vista was opened out to the spectators. The trees in their varied tints of green were extremely pleasing to look upon, and indeed everything was full of summer beauty. A halt was made at Brizlee Tower (Plate VII.) and many members of the party climbed to its highest point, from which the view was magnificent. The Aln slowly winds at the bottom of the bank, while to the north the Cheviots are visible, and away in the far distance is the hill of Ross Castle, which marks Chillingham Park. Eglington village is also to be seen amongst the trees. Hulne Priory (Plate VIII.) was the next stopping place, and here Mr George Reavell, junior, acted as guide, and explained many interesting points in connection with those picturesque old ruins. The site of the house is said to have been selected from a fancied resemblance to Mount Carmel, in Palestine, and the foundation to have been possessed, at the first, by some friars returned from the Holy Land. The return journey was made by way of Alnwick Abbey, and from there the party drove to the Star Hotel, where dinner was provided.

The President proposed the toasts of "The Queen" and "The Club," both of which were heartily honoured, and a cordial vote of thanks having been passed to His Grace the Duke of Northumberland, and to Messrs Wheler, Willyams, Hodgson, Skelly, and Reavell, the company dispersed, at the end of a most enjoyable visit.

APPENDIX A.

Alnwick Castle.—From materials communicated by Mr Skelly of Alnwick.

Alnwick Castle contains an area within its walls of about five acres. It is uncertain for how long a castle may have stood here, but in all probability almost as far back as the Conquest.

The castle, as it existed in the time of Eustace Fitz-John and his immediate successors, would appear to have covered the same amount of space as it does now. In examining the curtain wall at different points, one may still discern masonry dating from the time of the first De Vesey; but owing to the unsatisfactory state into which the entire building drifted in the sixteenth and seventeenth centuries, it is somewhat hazardous to venture an opinion upon the exact date, more especially because of the patching up that occurred in the middle of the 18th century, when the first Duke resolved on making habitable this great border stronghold. A Norman castle must have been in existence in 1309, when Henry de Percy purchased the Barony from Bishop Bek; and this castle, it seems clear, the first Percy lord lost no time in remodelling and still further fortifying.

Among the earlier works in the outer Bailey, those of the 14th century are the Barbican, Abbot's Tower, Falconer's Tower, Armorer's Tower (Plate IX.) the two latter of which were removed in 1860, when the present Falconer's Tower was built in a new position. (Plate X.—View of Alnwick Castle before 1860, showing the old Falconer's and Armorer's Towers.) Of both Bailies the dimensions indicate that the present curtain wall is almost identical with that which existed in the times of the early De Vescis.

[At page 204 will be found a plan of the Castle, showing the modern alterations by the side of the older arrangements.]

At the time Bek held the Barony (1297 to 1309), the castle possessed an inner and an outer gateway, both of which were approached over drawbridged fosses. Clarkson's Survey (1558) mentions the following towers on the walls:—Armorer's Tower, Falconer's Tower, Abbot's Tower, Garret,



VIEW OF ALNWICK CASTLE BEFORE 1860, SHOWING THE
OLD FALCONER'S AND ARMOURER'S TOWERS.



Barbican, Garret, Round Tower (now Clock Tower), Auditor's Tower, Garret, Record Tower, Ravine Tower, Constable's Tower, Postern and Sally Port.

The Barbican, one of the earliest parts of the present castle, belongs to the period of the first Percy lord of Alnwick (1312 to 1315). Adjoining the present porter's lodge, a small patch of Norman masonry is the sole relic of the old Norman Gateway, which was swept away to make room for the erection of the present Barbican. This, protected as it is by advanced towers, lofty running galleries, and by portcullises, presents a fine specimen of Mediæval Military Architecture, such as one can well imagine would, with the aid of valiant defenders, afford complete protection against a hostile entrance.

Alnwick Castle is one of the few in this country possessing stone figures upon its battlements, all of which are full length, and posed as if in the act of defending the approach to the stronghold. Above the outer arch of the present Barbican, a sculptured stone panel bears a lion rampant, and upon the cornice the following:—a crescent, the word *Esperance*, a locket, the words *Ma comforte*, and another crescent, while on the base is inscribed "*Esperance en Dieu*."

Contemporaneous with the Abbot's Tower, which probably derives its name from its having afforded temporary refuge to the Abbot of Alnwick Abbey during Border raids, the curtain wall that extends therefrom to the Barbican is interesting from the fact that while the lower parts of the wall are coeval with the works of the first lord, the West Garret* and the higher courses of masonry below the string course are not earlier than the time of the second Earl of Northumberland. The Abbot's Tower, three stories in height, is architecturally interesting in regard to doors, windows, and stone vaulting.

Formerly on the north side of the road that leads from the Barbican to the second Gateway stood the ancient "Checker House": whilst its principal chambers on the second floor

* These "Garrets" on curtain walls should be thought of in the sense of the kindred French word "*guérite*," for indeed many of them are, in shape, simply gigantic stone *sentry-boxes*.

were used as a Court House in connection with the Barony, the under flat was appropriated to the use of domestics. A little to the south of the Checker House was a similar building, which was wholly devoted to stabling and storage; but both these buildings were cleared away during the eighteenth century, the only reminder of this position of the stabling being the still existing tower called the Garner or Avener's.*

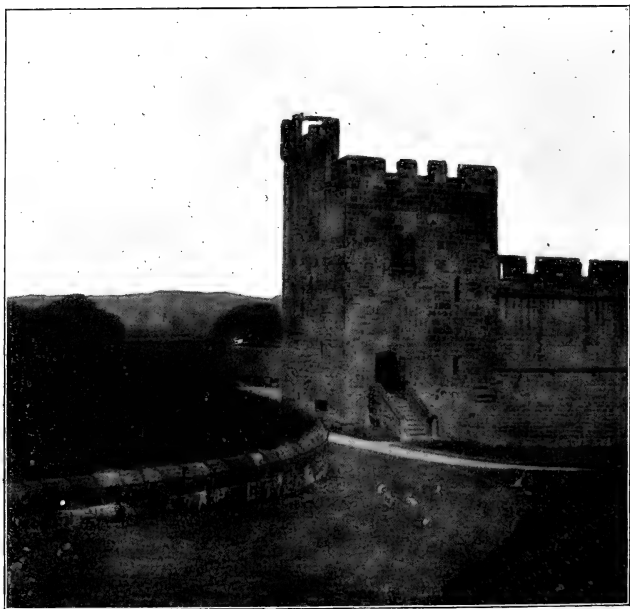
The stretch of curtain wall from the Barbican to the Clock Tower cannot be earlier than the middle of the sixteenth century. This part of the walls is provided with a small garret (the Avener's Tower just mentioned), but has no passage along the battlements. In making arrangements within the curtain the first Duke discontinued the stables in the bailies, and in lieu of them erected others to the west of the Clock Tower, giving them an entrance between the latter and the Avener's Tower. Towards the latter years of Hugh, third Duke, the stables were again extended and a riding school was provided. And in this part of the castle a further addition was made in 1854 by Duke Algernon, namely the new "Guest Hall," in which, when not required for its original purpose, the ducal carriages are stored.

The buildings from the Auditor's Tower to the second Gateway have during the last two centuries been subjected to great changes, first in the middle of the 18th century, and still more so during the recent restorations. The second Gateway may be ascribed to the time of the second Percy lord, 1315 to 1353. Like the Barbican it was defended by a fosse, gates, battlements, and a portcullis. In addition to these it was provided with a prison, and contained ample lodging for domestics.

The next in order is the Warder's Tower, which dates from 1854, having supplanted one of the preceding century. A few paces to the east of the latter is an ancient garret, erected on a small patch of Norman masonry, which shows the line of the curtain wall during the time of the De Vescis.

* French "avoine," an oat; an Avener being an officer in charge of grain.





POSTERN TOWER ALNWICK CASTLE.

At the time Duke Algernon was engaged in restoring the Castle, in 1854, the Record Tower was in a very dilapidated condition. The Duke, while fully recognising this, did not feel that immediate steps were then necessary towards its renovation; and so the Tower was allowed to stand till 1880, when, under the careful supervision of the late Duke, it was successfully restored.

Near the Record Tower is the site of the ancient Ravine Tower, which was demolished during the eighteenth century. In all probability this tower was no higher than the battlements of the wall, and served as a "Watch Tower." In removing some plaster from the curtain wall a short time ago, the workmen came upon two windows with cusped headings, and both had on either side the usual stone seats that were then used for military purposes. They now appear as recesses on the inner side of the wall, with their bases at the height of 5 feet from the ground.

Closely adjoining the Ravine Tower, and overlooking a charming landscape to the north of the town, is a small open turret known as "Hotspur's Chair," close to which is a patch of modern masonry in the wall, marking the site of a breach, which tradition alleges to have been caused by a body of Scots, who were all slain in their unsuccessful attempt to storm the stronghold.

Thirty paces, according to Clarkson, intervened between the Ravine Tower and the Constable's Tower, of which the "nether part then served as a buttry; the other parts were used as fair lodgings." In regard to position, style, and effect, this Tower is one of the finest and most interesting in the whole range; its bold architectural features and the detailed work of its doors, windows, and vaultings, finely exemplify the work of the early Edwardian period. Masons' marks upon some of the masonry of this building show it to be contemporaneous with that of portions of the castles of Dunstanburgh and Warkworth.

The next Tower on the curtain wall is the Postern, which, like several of the others, is three stories in height. In the sixteenth century this tower was thoroughly repaired by the seventh Earl of Northumberland, who added a lead covering to the roof; although during the Norman times this Tower

must have been strongly defended, it is certain that in after years its defences were further strengthened, or entirely remodelled.

At the time of Clarkson's survey a great portion of the inner ward was covered by buildings, the most important of which were the Chapel, Chantry House, Brewhouse, and Bakehouse. Facing the Ravine and Constable's Towers stood the Chapel, which measured in length 57 feet, breadth 21 feet, and height 21 feet, and which in 1558 was reported as being in a very good condition. Near to it was a conduit set with stone, which brought to a lead covered cistern a fine flow of fresh water from fields at the west of the town, known as "Howling Fields." Behind the chapel was the Brewhouse, a building measuring 60 feet by 27 feet, and close to the Postern was the Bakehouse, of about the same size as the Brewhouse. To the south of the latter were a Slaughter House and a Store House; and to the west of these stood the ancient Chantry House, of which, at the time of Clarkson's Survey, only a simple wall remained standing.

What was formerly the Keep, consisting of a series of towers of almost uniform height, is now dominated by the lofty Prudhoe Tower, the foundation of which was laid in 1854 by Eleanor, Duchess of Northumberland. In bold effect this tower adds to the dignity of the entire building; in style it resembles the prevailing work of the thirteenth and fourteenth centuries, and its architect must have made himself familiar with such buildings of that period as exist at Warkworth and elsewhere, and it bears sculptured on its front the lion couchant and guardant. Adjoining the Prudhoe Tower is the Chapel, with its high pitched roof and lancet windows, whose appearance tends to soften the rigid outline of the adjoining Tower.

The chief entrance of the Keep, through the Gateway of the Courtyard, leads one under the shadow of the ancient Norman Archway, whose lozenge and zig-zag mouldings are characteristic of Norman architecture, and assign to the archway a date between 1150 and 1180; whilst two flanking octagon Towers belong to the middle of the fourteenth century. In 1558 this Gateway was described as a "building of two towers of four house height." High up upon these

towers, below the string course, is a series of stone escutcheons, displaying arms of the following families:—Tyson, De Vesey, Clifford, Percy, Bohun, Plantagenet, Warren, Arundel, Umfraville, and Fitz-Walter; those of Tyson, De Vesey, and Percy represent the owners of the Barony, the others the most important matrimonial alliances. On the two centre shields are the arms of England and France.

This Gateway between the Octagon Towers had, like the others, its fosse, crossed by means of a drawbridge; and the Towers themselves of a uniform height, still bear on the summit of the battlements at the extreme angles four full length stone figures, all equipped in armour, and posed in the act of defence. The erection of these towers marks an extension of the Norman structure, and we find, as in the Barbican, the marks of the early Percies upon its front, the arms of Clifford indicating that this extension was not earlier than the time of the second Percy lord of Alnwick, who married Idonea, daughter of Robert Clifford. He died February 26th 1352, and was buried in the Abbey of Alnwick, and was succeeded by his son Henry, who at the time of his father's death was 30 years of age.

Of this Gateway, the late Dr Bruce said that "oft times from the windows of these towers will the spouse of Harry Hotspur have waved a parting adieu to her heroic husband, as he valiently rode forth on some warlike expedition."

Inasmuch as the Castle from the fourteenth to the early part of the sixteenth century was subjected to many changes, and still further when the first Duke of Northumberland resolved on making it more habitable, it becomes very difficult to determine the date of certain portions of its masonry. But it is nevertheless certain that at the time of the death of the fifth Earl (1527) the greater portion of the Norman structure had been demolished and replaced by later work.

That portion of the Castle which was purely Edwardian, the Great Dining Hall, generally assigned to the work of the first Percy lord, must in the eighteenth century have been in a very dilapidated condition, as was seen in 1854, when that part of the building was being restored. The workmen, when engaged in removing the plaster from the walls, discovered the site of the dais, and the hooks on which

the tapestry had been suspended. This apartment derived much of its light from a large protruding window which overlooked the courtyard. It would appear to have been similar in character, though superior in size, to the oriel window in the Chapel at Prudhoe. The walls of this chamber were of stone colour, relieved by white mouldings and pendent spandrils, while the ceiling was adorned by the arms of the Percies.

There are few sights more pleasing than that which the principal staircase affords. In breadth it measures 12 feet, each step being formed by one solid block of stone, which was specially procured from the forest quarry at Rothbury.

On a level with the Grand Staircase is the Guard Chamber, which is constructed so as to form an arcade. It is square; and while the flooring is wholly composed of small variegated marbles, the ceiling is relieved by means of flowers and foliage, and in the centre of these is a beautiful shield, bearing the arms of the Percies, and the motto "*Esperance en Dieu.*" The frieze is deep and is divided into panels, upon the four principal of which are cleverly portrayed scenes illustrative of the chief incidents in the ancient ballad of "*Ye Hunting in ye Cheviot.*" These are the work of Herr Gotzenburgh, and comprise the Departure, Repose, and Death of Douglas, and Death of Percy.

APPENDIX B.

Hulne Priory.—By George Reavell, Esq., junr., Alnwick.

Hulne Priory is an establishment of the White Friars or Carmelites, and in point of date was either the first or second house of that order in England, the other claimant for priority being Aylesford. It is said to have been founded by William de Vesci, but the earliest documentary evidence of period is an undated charter of John de Vesci, which must have been granted between 1265 and 1288 A.D. The ruins are more complete as regards plan than those of any other Carmelite house in England, and Clarkson's survey (made in 1567 for the seventh Earl of Northumberland) enables us—together with the excavations made by the late Duke of Northumberland—to make out the position and use of the various parts of the building.

The church where the Club gathered for the examination of the buildings is a simple aisleless parallelogram, 119 feet long by 19 feet 6 inches broad. Various items of interest were pointed out in the church, amongst others being the sedilia and piscina, sculptured monuments, and the socket for the lectern. It was also shown that the present east wall is only a piece of sham ruin, of which there are several examples.

The vestry was visited, and the curious recess with its stone shelf and chimney and sloped and drained lower shelf was examined, and Mr St. John Hope's theory of its purport put forward as a probable one. After looking into the chapter house and other buildings on the east, the cloister was entered, where the old roofing arrangement for the cloister walks was pointed out, those north and south having been covered

with lead on wood framing, the corbels for which still appear on the south wall of the church, and the east and west having been below the upper storey of two storey buildings, that on the east being the dorter range.

Clarkson in his survey refers to the southernmost part of this range as 'one howse called the wōmen howse wherein is two chambers with one chinley.' Mr St. John Hope says: "if by 'wōmen' we may read 'wormen,' the fireplace would indicate that this was the *calefactorium* or warming house of the brethren. It is, however, uncertain whether the name would be retained thirty years after the suppression, and it is equally possible that before 1567 these rooms had been assigned to the female servants of the lord, who evidently was in the habit of using the place as a dwelling house."

Leaving the cloister and its surrounding buildings, the old *infirmatorium* was pointed out, and it was mentioned that recently an interesting "find" of an archway and squints in an internal wall was made, and that one side of this feature had been left bare, the wall being that originally dividing the main hall of the infirmatorium from its chapel. Passing the old byre and barn, now adorned with a sham ruin gable, the "Lord's Tower," built in 1488, was visited, and after noticing the modern gateway in the east side of the old precinct wall the party left the priory through the ancient gatehouse.

Various references were made to the excavation of foundations of old walls made in 1888-9 by the late Duke of Northumberland, under the direction of Mr W. H. St. John Hope, for whom Mr Reavell made the plan, and whose account* of the buildings and their history was acknowledged as the authority of various statements made.

* *Archæological Journal*, Vol. xlvii. p. 105.

APPENDIX C.

Mr George H. Thompson of Alnwick has very kindly allowed the following reprint to be made from his own collection of letters of Bishop Percy, and it will be seen to describe in apt language much of the excursion made by the Club nearly a century and a half later.

*A Letter describing the Ride to Hulne Abbey from
Alnwick, in Northumberland.*

A

LETTER TO THE REV. MR. L * * .

ALNWICK, in NORTHUMBERLAND,
August 5, 1765.

Dear SIR,

At parting you desired I would sometimes write to you, and describe whatever I saw most curious in the North. In compliance with your request, I shall at present attempt a description of one of the beautiful Rides we have from this Castle; and shall rather select the following, as it presents views so different from what we have in the South of England, and also as the whole extent of it lies within one of the ancient Parks belonging to this great Barony, called HULNE or HOLNE PARK.

In a right line from the great Gate of ALNWICK CASTLE, a wide handsome road leads to a beautiful Gothic Gateway; which representing, as it were, an outwork from the Castle, is with great propriety ornamented with Battlements and a Portecullus.

HENCE between borders of flowering shrubs, and young plantations of beautiful forest trees, the path winds down a steep romantic Hill; at the bottom of which we cross a Rivulet, and turning to the left descend into a deep Valley. Here we pass under a high Cliff with overhanging sequestered trees, watered at the foot by a clear running Brook, which after a shower affords one or two very fine Water-Falls.

From this Valley we begin to ascend some wild swelling Slopes; whence the eye is thrown to the left over a rough uncultivated Scene, all broken into hill and dale. Passing on, we cross thro' two Gates and enter upon another scene of Heath Ground: a little narrow Valley full of young trees lying to the right; a small swell of planted Ground to the left.

THEN crossing over some corn-fields and upland pastures, thro' which the path very agreeably winds with a gentle ascent, we begin to gain a fine extensive prospect towards the east, terminated by the Sea. In the middle of this beautiful landscape we have a very pleasing view of ALNWICK CASTLE, standing on an Eminence, the foot of which is washed by the River ALNE. And as we continue to ascend the Hill, the swelling Towers of that noble edifice, seen at a distance, make a very striking and picturesque appearance.

PROCEEDING on, we ascend some wild Heath Grounds, and afterwards enter young plantations of Fir-trees, till by degrees the vast Swellings of CHIVIOU begin to appear towards the west, and at length emerge from behind the interposing hills, presenting an immense group of pyramidal Mountains, the highest tops of which are, for the most part, covered with the clouds.

THESE are seen at a great distance to the left; near at hand, to the right, the eye is charmed with the sight of a fine circular Hill we are about to ascend, clothed to its very summit with thriving plantations of young trees of various sorts and forms. This may be termed the Flowery Head of CARMEL; as this Hill* may with great propriety be called, for a reason that will be given below.

* Called by the Country People BRISLEY HILL.

PROCEEDING on, a path to the right leads to a rude Cave amid the Cliffs of the Rocks, which is to be adorned with the Statue of a Hermit, not ill-adapted to the retired situation of this fine romantic solitude.

THE former path being resumed, winds for a quarter of a mile round the Edge of a most astonishing Precipice, which from a vast height, presents a noble wild prospect of wide extent, and at an amazing depth below the Path from which it is seen. The first object the eye looks down upon at the foot of the mountain, is the River ALNE, winding in the most beautiful and whimsical irregularities. This is to be received into a large Lake on the right, which will cover 200 acres of ground. On a little Hill on its margin, are seen, as in a picture held far below the eye, the fine Remains of HULNE ABBEY: more to the left are little Swellings, the hollows of which are fringed with a chain of small rough Thickets. Beyond these rises a vast extent of wild naked Plains, with here and there a single Farm or Plantation scattered like solitary islands in a wide unbounded ocean. Over these the eye gradually rises to where the vast Mountains of CHIVIOR erect their huge conic heads; between the openings of which, the sight gains a glimpse of the still more distant blue Hills of TIVIODDALE in Scotland. The top of CHIVIOR is distant more than twenty miles: the Hills in Tiviotdale near forty or fifty.

TURNING off from the Edge of this high natural Terrace, we cross a little level Plain, and then gain the highest point of this British Carmel. Elevated as its lofty summit is, it is all clothed with young Plantations of evergreen and forest Trees, with spacious Avenues left for the passage of Wheel-Carriages, which easily ascend to its topmost point. Here in a little Plain, surrounded by a Circus of young Trees, is to be erected a noble Tower fifty feet high: which will command an astonishing extent and variety of prospect. Here we see, as in one general map, what we have hitherto admired in detached parts.

To the West we have still a more extensive view of that amazing wild Prospect towards CHIVIOR, which is but faintly described above. Those rude Mountains now appear finely contrasted with a great Variety of Hills and Slopes to the

North, which are cultivated up to their very summits.—To the East are fine green Vales, in the midst of which the Town of ALNWICK, overlooked by the Castle, hath a most picturesque appearance: below it, the River ALNE is seen beautifully winding towards the Sea. But above all the SEA itself most nobly terminates this great Prospect to the East and South, and extends itself all along the Coast down from beyond the FARN ISLANDS to the north; yet not so distant but that the Shipping may be plainly seen many miles from the land, and affords a fine moving picture. On the margin of the Sea the Ruins of DUNSTANBURGH-CASTLE, and the little Port of ALNEMOUTH, are two of the most striking objects.—To the South-west a wild rude Moor, part of the ancient Forest of HAYDON, rises still higher than the Mountain on which we stand; yet clothed on one side to its very top with infant plantations which are at present struggling with the inclemencies of its situation, but promise fair to surmount them. And here and there are interspersed some of those Pyramids of Stone erected in ancient times for Land-marks, and called by the inhabitants CAIRNS or KERNS.

AND now the eye being fully glutted with these great and wild views of nature, we descend from this eminence in order to contemplate other Scenes more confined and more cultivated. For winding down to the bottom of the Mountain, we cross the River, and find that HULNE Abbey, which before appeared so low beneath our feet, is really situated on a Hill of no inconsiderable height, to which we again ascend from the River.

HULNE ABBEY was the first Monastery of CARMELITE Friars in these Kingdoms. The account of its Foundation is thus given by ancient Writers. Among the British Barons, who went to the Holy Wars in the reign of King Henry III. were WILLIAM DE VESCY, Lord of Alnwick, and RICHARD GRAY, two eminent Chieftains in the christian army. Led by curiosity or devotion, they went to visit the Monks of MOUNT CARMEL, and there unexpectedly found a countryman of their own, one RALPH FRESBORN, a Northumberland man, who had distinguished himself in a former Crusade, and in consequence of a vow had afterwards taken upon him the

monastic profession in that solitude. When Vesey and Gray returned to England they strongly importuned the Superior of the Carmelites to let their countryman accompany them home; which was at length granted, upon condition that they would found a Monastery for Carmelites in their own country. Soon after their return, Fresborn, mindful of their engagement, began to look out for a place for their Convent. After examining all the circumjacent solitudes he at length fixed on the present spot, induced, it is said, by the great resemblance which the adjoining Hill bore to Mount CARMEL: And indeed whoever looks into "MAUNDREL's Travels," will find that the Draught of that Mountain given in his Book bears a strong likeness to this before us.

THE above WILLIAM DE VESCY* gave a Grant of the Ground, consisting of 12 or 13 acres in his Park of HOLNE, but FRESBORN is said to have erected the Buildings himself. The Foundation was laid about A.D. 1240, and Fresborn gathering a proper number of Monks, became the first Abbot of the Order, and having presided here with great reputation of sanctity, at length died, and was buried in this Monastery about the year 1274.

THIS Grant of William de Vesey was afterwards confirmed and enlarged with new privileges by his Sons John and William; and when in the beginning of the next century their Barony came into the possession of the PERCY Family, their Charters were confirmed by the successive Lord PERCIES of ALNWICK, some of whom gave additional marks of their favour to this Abbey, as appears by their Charters of 1310 and 1334.

AT length HENRY PERCY, fourth Earl of NORTHUMBERLAND, built in it a fine Tower as a place of refuge for the Monks to retire to, in times of danger. For in the sudden irruptions of the Borderers of both nations, these rude men spared no places or persons however sacred, but laid all waste with fire and sword.

* Not his son JOHN, as it is in Leland, Bale, &c. This appears from the Original Charters, of which I have seen Extracts in MS. as also from Dugdale's Baronage, vol. i. p. 93, 763,

THIS Tower having been preserved more intire than any other part of the Abbey, has been lately repaired by the present noble Possessors, whe are fitting it up in the old Gothic Style, and have shown an admirable taste both in the choice and adaptation of the ornaments. Near it, in ancient English, is this curious inscription:—

In the year of crist Jhu M CCCC^{xx} IIIII^{xx} VIIII^{xx}.
 This towr was bilded by Sir Henr Percy
 The fourth Erle of Northüberlād of gret hoñ & worth
 That espoused Maud y^e good lady full of virtue and bewi
 Daught^r to sr willm harb't right noble and hardy
 Erle of Pembroch whos soulis God save
 And with his grace cōsarve y^e bildes of this tower.

DESCENDING from these venerable Ruins we wind along a fine romantic Valley, with hanging Woods to the left, and the RIVER ALNE to the right, beyond which rises a rough Hill covered with small Thickets. The River here accompanies the path for near two miles, sometimes approaching near to the Wood, at other times receding from it; one while gliding along in a smooth Canal of clear water, at other times foaming down among Craggs and interposing Stones.

AND first we pass close under a fine impending Wood; whence emerging we enter a green spacious Meadow, here and there interspersed with trees. This is agreeably contrasted with a large succeeding Shrubbery, in the midst of which rises a fine Chalybeat Spring, that will probably be distinguished by a little overhanging Grotto. Passing the Shrubbery, which also affords a large nursery for future plantations, we ford the River, and travel round another beautiful Meadow, from the center of which the eye is carried, to the right, over a succession of fine swelling Slopes, till it rests on the top of CARMEL. Soon after a very pleasing Landscape is seen to the left thro' an opening in the Trees that hang over the River.

Now we enter some beautiful Plantations, which by a gentle rise and fall in the ground, afford a great variety of

pleasing Scenes in beautiful succession, till at length ALNWICK CASTLE begins to emerge from among the trees, and presents itself to the eye more than once in this conclusion of the Ride. Here also the Battlements of the Tower, belonging to the once-famous PRIORY of ALNWICK, are seen below to the left, close embowered amid the trees. As the Tower is the only ancient part now remaining of that once-extensive building, the rest being a meer modern house, it was all that was worth disclosing to the eye. Soon after we regain the Gothic Gateway by which we entered; and now having completed a circuit of six or seven miles, we return back to Alnewick Castle, having to the left a charming view over a country most beautifully diversified.

I HAVE now brought my long narrative to a conclusion, in which be pleased to observe that some things are mentioned not as Objects of Attention, but merely as Landmarks, the better to distinguish and divide the several Parts of the Ride; yet most of the particulars above described, afford great and striking beauties.

I am, &c., &c.

The following copy of a letter by Bishop Percy, undated and unfinished, is also from Mr Thompson's collection, and is interesting in respect of Natural History.

Dear Sir,

In a former Letter I attempted a Description of the Ride to Hulne Abbey, and the very favourable Reception you gave it, encourages me to take up the Pen a second time, and to endeavour to describe to you another Ride from this great Castle to that of Warkworth, a fine Relique of ancient Grandeur situate by the sea side at about eight miles distance.

The face of the country about Alnwick is beautifully diversified with hill and dale, and affords a great variety of

pleasing Landscapes; through these we travel for about 3 miles, till we come to Lesbury Village, not much more than a mile from the sea; the approach to this Village is through a fine double Row of Ash-trees remarkably large and well grown that over-shade the road, and show that this country is not unfavourable to the growth of trees, notwithstanding its present naked appearance; but this will in a few years be totally altered, and Northumberland bids fair to be one of the best planted counties in England. This village of Lesbury was noted in the last century for the long life of one its Vicars, the Rev. Mr Mackel Wyan, who died about 1659, aged 118: but, what was still more remarkable, about two years before (*viz.*, 1657, he being then aged 116) he had a total renovation of all his faculties: his eyes, which had been so much impaired that for 40 years before he could not read without spectacles, were so much restored that he could now read the smallest print: his hair, which before he had lost, came again like that of an Infant: and his teeth were renewed. A full account of his remarkable case is preserved in the Philosophical Transactions: but I have discovered more Instances of Longevity in this neighbourhood than perhaps are to be found within the same distance in any other part of England.

BEAL FOR HAGGERSTON.

THE SECOND MEETING was held at Beal, on Wednesday, 27th June, when most of the members present availed themselves of the opportunity, kindly offered by Mr Leyland, to visit the famous "Zoo" at Haggerston Castle. In the early morning the weather threatened to be anything but favourable, and consequently there was not such a large attendance as usual. Gradually, however, as the day grew older, the dark, ominous clouds cleared away from the sky, and the sun shone with a brilliance which was heartily welcomed by the members who had ventured to put in an appearance. Shortly after half-past nine they gathered from all quarters at Beal Station, and then those who preferred devoting the day entirely to botany started for Kylvoe, where, by permission of Mr Leyland and Mr Hogg, the moors and crags were accessible; whilst the others—by far the larger number—set out under the guidance of Mr Tait, superintendent of the collection at the Castle, for Haggerston. The party included the President, Mr Arthur H. Evans, Cambridge; Colonel Milne Home, Caldera, Duns, Organising Secretary, and Miss Milne Home; Mr George Bolam, Berwick, Treasurer; Rev. E. Arkless, vicar of Earsdon; Mr E. W. H. Blagg; Mr Robert Brown, Duns; Mr C. B. P. Bosanquet, Rock Hall; Mr and Mrs John Cairns, Alnwick; Mr William Dunn, Redden; Rev. J. Fairbrother, vicar of Warkworth; Miss Forbes, Berwick; Mr A. Giles, Edinburgh; Dr R. S. Gibb, Boon, Lauder; Mr W. T. Hindmarsh, Alnwick; Mr L. Johnston, Oxnam Neuk, Jedburgh; Dr Leishman, Edinburgh; Rev. T. Marjoribanks, Houndwood; Miss Marshall, Berwick; Mr J. L. Newbigin, Alnwick; Mr A. Riddle, Yeavinger; Mr R. H. Simpson, Alnwick; Mr Somervail, Chirnside; Dr Stuart, Chirnside; Mr Stephenson, Berwick; Mr W. G. Twort, Alnwick; Mr

John Tate, Alnwick; Mr R. S. Weir, North Shields; Mr Willoby, Berwick; Mr Joseph Wilson and Miss Wilson, Duns; and Rev. Thos. Varley, vicar of Leadgate.

In respect alike to the area it covers and the variety of its inhabitants, Mr Leyland's establishment is certainly one of the finest in England, and the inspection of his unique collection of animals and birds afforded the greatest pleasure to the visitors. It was just within the park gates, inside a strongly fenced field close to the station, that the first glimpses of the American buffalo were caught, and, truth to say, these shaggy monsters, with their great heads and powerful shoulders, were objects of the keenest curiosity. Like the Redskin, the buffalo is, in America, rapidly becoming extinct, and Mr Leyland is making the experiment, which is proving successful, of perpetuating the species by breeding from the animals in confinement. He procured his first specimen of a pure-bred bison in 1890, and in the course of his travels he secured sixteen altogether. Now, with the cross-bred animals, obtained chiefly by mating the bison with the Highland cows, there is a herd of over thirty of these prairie beauties. They stand the English climate, tantalisingly changeable as it is, very well on the whole; but the cold dampness of the winter is rather trying to them, whilst the richness of the herbage also occasionally gives rise to anxiety. There are stoutly built houses constructed for their use in the pasturages, but they live out of doors as a rule, and may be easily identified from the train by any passengers going north who choose to cast their eyes to the left immediately Beal Station is passed. On Wednesday one of the lady visitors endeavoured to get a snapshot of a handsome bull, but immediately on sighting the stranger he careered wildly over the field with head down, giving the visitors the notion that they were on much the better side of the wall. However, the fair photographer succeeded in obtaining a picture to her satisfaction a moment later, when a half-dozen magnificent North American stags and hinds came under inspection. One of the stags is ten years old, and another five years. Mr Leyland brought them from Wales to Haggerston. Proceeding along the pleasant roads of the estate, shaded by stately elms, limes, and other fine trees, the foliage of which looked most

refreshing after the recent rain, nine graceful nyghaus next came into view, looking with startled eyes on the disturbers of their privacy; and then quite a large number of white-tailed gnu were seen. Immediately on the approach of the party these animals, which are natives of South Africa, and often vicious too, demonstrated their remarkable agility by giving a very vigorous exhibition of running and jumping. In another enclosure were nine sleek Brahmin cattle, which are held in the deepest veneration by the Hindoos. Next some exceedingly pretty spotted Indian deer of the Axis tribe were examined with admiration; and then several Japanese stags found favour, as well as Reeve's deer from China—a beautiful little creature only 18 inches high.

The lake on the estate could not, unfortunately, be opened to the visitors, and consequently most of the numerous varieties of birds were missed, but several ostriches were seen, as well as an American emu, who had eight eggs under her, and flocks of Canadian and Chilian geese and Crown cranes from South Africa. Another most interesting sight was that of several kangaroos, which called forth much comment. Indeed, the novel and comprehensive glimpses of rare animal life charmed and instructed everyone.

At the close of the visit Mr Leyland and Mr Tait (his superintendent) were heartily thanked, the former for giving the Club permission to view his collection, and the latter for his able and intelligent conduct of the party.

Subsequently the members dined at the Avenue Hotel, Berwick, and thus brought to a close a most enjoyable day.

Botanical Notes.—By the President.

After leaving Beal Station at about 9-30, the party, consisting of the President, the Treasurer, Dr Stuart of Chirnside, Mr Somervail of Broomdykes, and Mr Anderson of Duns, drove up to the Bogle Houses at Kyloe, and proceeded to work along the range of basaltic crags for plants. They succeeded in finding *Polygonatum officinale* and one very small tuft of *Asplenium septentrionale*, while *Euonymus*

europæus, and other well-known plants of the district were also seen. Wheatears, Stock-doves, and Jackdaws were the most plentiful birds, but several Curlews and a Cuckoo were in evidence. The Stock-doves still had eggs in two or three instances. Mr Hogg's keeper met the party half-way along the crags, and Mr J. Carr of Hetton Hall bicycled up to the western end of the range to join them. Having completed the investigation of the Flora and Fauna of the cliffs—and failed to observe any Lepidoptera of importance—a move was made for the top of Black Heddon Hill, where, not far from the cairn, was the spot at which mill stones used to be cut at some unknown date. Several partly cut stones were still *in situ*, but in most cases merely the holes were visible from which the stones had been removed. The rock is sandstone, the whole of the ridge of Black Heddon being of the same formation. Near the same spot several specimens of the Beautiful Yellow Underwing (*Anarta myrtilli*) were captured, and a few other moths seen, including the Wood Tiger (*Nemophila plantaginis*). The Bog Pimpernel (*Anagallis tenella*) was found at the usual spot near the road on returning, and the Petty Whin (*Genista anglica*) was growing close by. Four members of the party arrived from Haggerston at the crags just in time to see one of the old camps, possibly British, at the top of them, after which a move was made for the station.

HOLY ISLAND.

Holy Island was visited on Friday, July 6th, by members of the Architectural and Archæological Society of Durham and Northumberland, and by members of the Berwickshire Naturalists' Club.

The latter Society was represented by Colonel Milne Home, Organising Secretary; Mr G. G. Butler, Secretary, and Mrs Butler; Mr Geo. Bolam, Treasurer; Rev. John Burleigh, Capt. Forbes, R.N., Miss Forbes, Mr Arthur Giles, Sir A. Buchan Hepburn, Rev. A. Jones (Stannington), Rev. Dr Thomas Leishman, Rev. H. M. Lamont, Miss A. M. Milne Home, Mr W. Maddan, Rev. Thos. Marjoribanks, Miss Marshall, Major Macpherson, Mr W. B. Swan (Duns), Mr David G. Simpson, Mr and Mrs James A. Somervail, Mr E. Willoby, Mr Joseph Wilson, and others. The Architectural and Archæological Society's members present included the Rev. Canon Greenwell, Durham, President; Mr Hodgson, Alnwick; Mr T. Tate, Alnwick; Rev. L. J. Wilkinson; and many others.

At half-past nine the Berwickshire contingent left Berwick Railway Station in a brake, which conveyed them to Berwick Quay, where they got on board the "Osprey," placed at the disposal of the Club for the day by the Tweed Commissioners. The party, after a pleasant journey, reached their destination shortly before mid-day. The members of the Architectural and Archæological Society travelled to Beal by train, arriving there at eleven o'clock, a saloon and other carriages having been provided by the North-Eastern Railway Company. The distance intervening between the station and the island was traversed in brakes, so far as the majority of the company was concerned. Others who walked found a somewhat interesting experience in negotiating the long stretch of sand which lies between the mainland and the island. The tide had not entirely withdrawn, and shoes and stockings had necessarily to be taken off. Without mishap, however, and not without some pleasure, the day's rendezvous was reached, and the programme arranged was at once proceeded with. The weather, in the meantime, had occasioned anxiety. The early sunshine had given place to an overcast sky, and some rain had fallen.

The visitors discovered much to interest them. The ruins of the priory afforded a special attraction, and Canon Greenwell's observations regarding them were listened to with exceptional delight. No one knows more of the stirring history of Lindisfarne than the reverend gentleman. His quotation from Sir Walter Scott's "Marmion" formed a fitting preface to that which followed:—

"For with the flow and ebb, its style
Varies from continent to isle.
Dry shod, o'er sands, twice every day,
The pilgrims to the shrine find way.
Twice every day the waves efface
Of staves and sandall'd feet the trace."

This visit, Canon Greenwell said, was the third so far as his Society was concerned. From Holy Island, he explained, the whole of the northern part of England was Christianised. King Oswald brought from Iona, where he himself had attained Christianity, the great man Aidan, who established a bishopric at Lindisfarne. It formed a branch of the Celtic Church, and differed from the Christianity which came from Rome. The island seemed a very unlikely spot on which to settle missionaries who were going to Christianise a very large district round about. But there were more reasons than one why that was done. The defensive position of the place was one reason. It was practically an island. A still greater reason was its close proximity to Bamburgh, the royal residence; and perhaps a yet greater reason than all was its resemblance to Iona. Colman was the last Celtic bishop, and he occupied the position from 661 to 664. In the latter year a synod took place at Whitby under Osway, King of Northumbria, and some very important matters were determined. The two principal things were the time of keeping Easter and the position of the tonsure. The Celtic practice was to shave the front of the head, while the Roman practice was to shave the top. But there was no doubt whatever that what was really at the bottom of all the dispute was a desire to bring the Celtic Church into complete obedience and union with the great patriarchal Church of the west, namely, Rome.

Wilfrid, the advocate of the Roman rite and custom, carried his point, and the Celtic observances were done away with. Colman returned to Iona, and nearly the whole of the monks withdrew with him. Passing on to speak of Cuthbert, Canon Greenwell said his opinion was that that great man was not of Irish birth, but that he belonged to a Teutonic people settled in this part of the country—that he was born in the south of Scotland, or at all events lived there in early life. He went to Lindisfarne from Melrose. Ultimately he lived as a hermit on one of the Farne Islands, where he died at the comparatively early age of fifty years. In spite of the good effect the heremital life of St. Cuthbert might have had, Canon Greenwell believed that it would have been much better had he continued his missionary work and had not withdrawn himself from among his people for the long period of eight years.

After describing the manner in which the body of St. Cuthbert was removed to Durham, where it still lay, Canon Greenwell made a very interesting statement respecting the remains of the coffin now in the Library at Durham. He had endeavoured, he said, to put the coffin together. After several failures, owing to the tenderness of the wood, he had, at length, got it into such a condition that any person could see what the coffin had been. He was waiting for warm weather to enable him to work in the apartment where it lay, and to fix it in a case prepared for it. It was covered with sculpture. Upon the lid was a figure of Our Lord, surrounded by the four evangelistic symbols, with the names, one in Runic characters. On one side were figures of Archangels, and on the other were fourteen figures, including the twelve apostles. On one end there were two archangels, and upon the other was the Virgin, with Christ upon her knees.

Canon Greenwell's remarks were brought to a rather abrupt termination by the announcement that luncheon—kindly provided by Sir William Crossman—was ready. The excellent fare having been duly enjoyed, a hearty vote of thanks was accorded to Sir William and Lady Crossman for their hospitality, Canon Greenwell proposing and Colonel Milne Home seconding the proposition. Sir William Crossman suitably responded.

The party then assembled within the Priory ruins to listen to a description of the place by Mr C. C. Hodges, who is thoroughly conversant with his subject. He traced the history of the Priory from the beginning. A wooden thatched church, he said, first occupied the site. He had a great deal to say respecting the edifice of which the ruins remain, and also the domestic buildings attached thereto at one time for the use of the monks. There was no trace of a Chapter House. After the dissolution of the monasteries the private buildings were turned over to the wardens of the Eastern Marches, and were used as a Government store house for a considerable time. At length they fell into ruins. The main reason why they were not completely destroyed at the time mentioned was this, that there were no important buildings on the island, and these ruins were, therefore, of great use to the authorities.

From the ruins a move was made to the church, where Sir William Crossman read an able and exhaustive paper on "The Bishops of Lindisfarne," and was thanked for it on the motion of Mr R. O. Heslop.

The Vicar of the parish, the Rev. D. Bryson, pointed out several matters of much archæological note within the walls of the early English church.

Altogether the day's proceedings proved enjoyable and instructive. The general arrangements were excellent, and neither hitch nor accident of any kind occurred. With the exception of a slight shower, no rain fell during the visit to the island. A cold wind, however, prevailed.

BURNMOUTH.

THE THIRD MEETING was held at Burnmouth and the immediate district, on Thursday, 19th July, and a pleasant day was spent. To those members of the Club who are interested in geology, no better spot could be chosen for a meeting, as the coast of that part of Berwickshire abounds in all that is best and most interesting in British geology, and, besides, those attending the meeting had the guidance of Mr Goodchild, of the Geological Survey, F.G.S., F.Z.S., who has been for many years in charge of the Collections of Scottish Geology and Mineralogy in the Edinburgh Museum of Science and Art.

The weather was all that could be desired for an outdoor investigation. The gathering was not quite so large as some of the recent meetings of the Club have been, but there were many circumstances which might account for the small attendance. Though few, however, those present were thoroughly in earnest, and highly appreciated Mr Goodchild's varied and interesting remarks regarding the different rocks to be found in the neighbourhood.

Those present were:—Mr A. H. Evans, M.A., F.Z.S., Cambridge, President; Colonel D. Milne Home, Caldra, Duns, Organizing Secretary; Mr G. Bolam, Berwick, F.Z.S., Treasurer; Mr Thomas Darling, Mr A. Darling, and Mr

A. D. Darling, Berwick; Hon. and Rev. Canon Ellis, Bothal Haugh; Captain Forbes, R.N., Berwick; Mr Goodchild, Edinburgh; Mr W. T. Hindmarsh, F.L.S., Alnwick; Rev. Ambrose Jones, Stannington; Mr J. S. Mack, S.S.C., Coveyheugh; Captain Norman, R.N., Berwick; Mr J. L. Newbigin, Alnwick; Mr J. A. Somervail, Broomdykes; Dr Stuart, Chirnside; Rev. Dr Sprott, North Berwick; and Mr Joseph Wilson, Duns.

The majority of the company assembled at Berwick, and drove to the place of rendezvous. The road traversed presented many interesting features. Little over a mile from Berwick, the foot of Halidon Hill was noted, and further on the trim well-kept grounds of Marshall Meadows were passed in view. Captain Norman, R.N., who was responsible for the meeting, took charge of the company, and called their attention to the various points *en route*. Lamberton Toll, the scene of so many runaway marriages, was seen, but the house and surroundings of the cottage in which the nuptial knot has been tied in so many cases, have altered greatly in appearance of late years, and now wear a neat and modern look. Nearing Burnmouth, Ross Dean (in which some interesting botanical specimens are to be found) was noted in passing, and further on Chester Hill, rising 500 feet above the sea-level, and topped with red sandstone, was pointed out. On the arrival of the Berwickshire train, the company set out down the brae in the direction of the village of Partonhall.

About mid-way down, Mr Goodchild gave a brief address, which he illustrated by diagrams, and reviewed all the salient features to be found within reach of the ground to be covered in the day's excursion. He said: There is no part of the Berwickshire coast, full of interest as it all is, which has preserved records of so many geographical changes as the coast at Burnmouth. If for no other reason than this, the Berwickshire Naturalists have done well to act upon Captain Norman's suggestion that it should be made the chief object of one of the excursions this year.

The oldest rocks seen here are exposed in the railway cutting on both sides of the station, and are most admirably displayed along the cliffs to the north. They

were originally beds of marine sediment, alternately sand, sandy mud, and clay, deposited upon an ancient sea bottom while the land was undergoing a very slow subsidence. This event dates back many millions of years in the past, long prior to the first appearance of any but the very lowest forms of life now living upon the earth; and, of course, long before any geographical features now anywhere in existence had come into being. Geologists find it convenient to give distinctive names to great groups of rocks, and those in question belong to the Silurian Period, and to that early part of it which is typically represented by the rocks near Gala, whence the name Gala Rocks is now usually applied to those oldest rocks which form the northern part of Berwickshire, and which extend south-westward, forming the southern uplands of Scotland, to the coasts of Galloway and Carrick.

Near the close of the period, and after the oldest rocks seen at Burnmouth had been buried beneath a pile of sediments of much the same kind, some eight or ten thousand feet in thickness, a slow upward movement of the earth's crust set in. The old sediments, at first buried thousands of feet below the surface, after being slowly compacted into hard rock, were gradually squeezed from their original state of a pile of horizontal sheets of sediment into a series of folds—a process which one can readily imitate on a small scale, and in a few seconds, by placing two or three leathern straps one on the other, and then pressing the opposite ends towards each other. If the experiment is performed carefully it will be easy to bend the straps first into one simple fold, and then by continuing the process to end by plicating the straps into a series of puckers of any degree of complexity. Lateral pressure, steadily applied, through long millions of years, to the old sediments under notice, first gently arched them upward, raising them gradually above sea-level, and ended by crumpling the whole mass into a puckered and highly-convoluted series, in which condition these Gala Rocks may be seen along the Berwickshire coast now. Several important results ensued as a consequence of this crumpling and upheaval of the old Silurian sediments. At an early stage

the Silurian rocks were slowly upheaved into a great upland area, which rose to several thousands of feet above the sea-level. Its precise position is not known; but it probably reached its highest levels along a line which may be said to coincide with that which now joins Dunbar and Ballantrae. The upheaval affected a very large area, and what is now Berwickshire was then distant, perhaps, some hundreds of miles from the nearest sea. As a consequence of these continental conditions the rainfall began to be scanty and irregular; and, taking one year with another, it is probable that not more than about ten inches of rain fell per annum, and even that was usually precipitated only during very heavy thunderstorms. No vegetation could thrive under these climatal conditions; and, as a necessary consequence, animal life dwindled down to a minimum, and to be probably represented only by a few highly specialised forms of fish life, adapted (like the Lung fish of Queensland) to live in such lakes as could hold out through the long periods of drought. In other words, desert conditions set in. It was under these geographical conditions that the Old Red sedimentary rocks seen about Ayton were formed. These conditions prevailed for a period of sufficient length to permit of the old mountain range being gradually wasted away. The products wasted from the mountain areas were gradually spread out by torrents far and wide, and formed the sandstones and conglomerates of which these rocks partly consist.

Towards the middle of this period of continental conditions earthquakes began to affect the district, and they gradually increased in violence and frequency until they at last ushered in volcanic conditions. Here and there all over the district small volcanoes broke out, and these grew up in course of time and eventually formed a great connected series, which extended over a large part of North Britain. It was from these volcanoes that the rocks that now form the Cheviots were laid down. The same volcanoes have left traces of their existence at many places in Berwickshire; as, for example, at St. Abbs' Head and Coldingham, at Eyemouth, and even at many places around Burnmouth. At the last-named place they are now represented only

by a series of dykes of porphyrite, all the rest of the vast pile of volcanic rocks which formerly covered the district having been entirely removed. These porphyrite dykes are well exposed near the railway station at Burnmouth; they are admirably represented by a typical example, which crosses the dene leading from the school to Partonhall, and they are equally well shown in connection with the striking coast features known as the Gull Rock and the Breeches Rock, to the north of Burnmouth. Good examples of these porphyrites are also to be seen at Lamberton.

After a long time the volcanic activity died out, and the old volcanoes were gradually wasted away, leaving only some few disconnected fragments of the lavas and tuffs. Besides the porphyrite dykes there now appear at the surface several masses of granite. These were originally formed at the roots of the old volcanoes, and they owe their present exposure at the surface to the combined effects of upheaval and denudation, by which all the thick mass of rock which formerly overlay them has been gradually removed, and washed sea-ward to form newer strata elsewhere.

There were many periods of disturbance during the development of the events just noticed, which completely altered the face of the country, time after time.

Near the close of the great desert conditions the Upper Old Red Sandstone was laid down. It was formed in very much the same manner as the older Old Red Sandstone had been before it. Remnants of this Upper Old Red are seen at the foot of the cliff below Burnmouth, as well as at Chesters, Siccac Point, and many other places in the neighbourhood.

After a time, the land once more began to subside; the sea margin approached nearer and nearer; rain began to fall in fair quantity, and with increasing regularity; vegetation gained a footing; and the old desert conditions gradually passed away, giving place to climatal conditions which were as different as they could well be from those which preceded them. It was under these conditions that the Carboniferous rocks were found. First of all, when the climate had really begun to change for the better, the

Tuedian Beds (better known as the Lower Limestone Shale or Ballagan Beds) were formed. These probably overspread nearly the whole of what is now Berwickshire, and indeed they were deposited over a large area which extended over most of Great Britain and Ireland.

Then followed a long period during which the land continued slowly to subside, while at the same time the delta of a great river draining a continental area lying to the north-west of Britian was slowly built up of pile upon pile of sand, silt, mud, and vegetable matter over the present area. Broken and disturbed remnants of these ancient delta deposits are now seen turned bottom-upwards in places along the shore at Ross Point, and elsewhere in the neighbourhood. At a somewhat later period the land began intermittently to subside to greater depths, the depth of water increasing in a south-easterly direction. It was under these deeper-water conditions that the limestones were formed. The earliest rock of the deeper-water type now occurring along the Berwickshire coast is the Lamberton or Dun Limestone. In the intervals between the deeper-water episodes sandstone, shale, and coal seams were deposited on the sea floor.

At a period still later the Upper Carboniferous Rocks were laid down here, still in connection with a delta at the mouth of the large river already mentioned as flowing towards deeper water from the north-west. There is reason to believe that the total amount of subsidence here during Carboniferous times amounted to some ten or twelve thousand feet. It will be evident from a consideration of these facts that the strata seen at Ross were at one time nearer the centre of the earth by two miles or more than they are now. Most of Berwickshire was covered with the same vast pile of sediments, which for a long time remained in horizontal layers.

At last came an end to the downward movement to which deposition was due. Then ensued a renewal of the geographical changes which had affected these parts prior to Carboniferous times. The old sediments were steadily folded—though to nothing like the same extent as on the former occasion—mountain masses were gradually squeezed

up, so as to rise far above the sea-level, Continental conditions set in, and Desert conditions returned, and affected Britain for the last time in its geological history. As the newly-formed strata were slowly forced upward they underwent more or less disturbance and faulting. The process of upheaval was a slow one, so slow, in fact, that the waste of the upland areas nearly always kept pace with the rate of elevation. It was the materials laid down under these conditions, across the worn and wasted edges of the disturbed strata of older date, which afterwards formed the New Red Rocks. These were laid down on an irregular surface formed of rocks of all the ages older than themselves. They probably overspread the whole of Berwickshire. Infiltrations from these New Red Rocks have produced very material changes amongst the strata upon which they originally lay, and though most, if not all, of the New Red has been wasted from the surface of Berwickshire, marks of its former presence are to be seen in the deep-red staining of the sandstones. This colouration forms a conspicuous feature in connection with the Carboniferous sandstones of the Berwickshire coast, and is well seen at Ross, Lamberton, Marshall Meadows, the Burgess's Cove, and other places. The same chemical infiltrations, carrying down solutions of carbonate of magnesia, have converted many of the Carboniferous limestones into dolomite. Some of them, indeed, have been further changed into hæmatite. Traces of all these features are well seen at the places visited by the Club on the present occasion.

At a much later period in British history, another great volcanic episode occurred. There is no reason to think that the volcanoes themselves actually occurred here. Nevertheless, vast quantities of eruptive materials, chiefly basalt, ate their way upward through the older rocks in many parts of Britain during this volcanic period; and two or three basalt dykes, which are probably, or almost certainly, of this age, intersect the Carboniferous rocks near Ross Point, and at other places along the coast near to Berwick. Of the later changes which have given rise to the present features of the Berwickshire coast much can be said, but the subject is

too extensive to be dealt with in the course of a short address like the present.

The various strata were explained by Mr Goodchild, and examined by the company, after which the journey was continued to the beach, where the different and interesting formations of the various kinds of rocks were observed. Afterwards the company moved on in the direction of Ross, where Mr Goodchild continued his highly interesting observations.

Returning to the brakes once more, the members drove to Lamberton Shields, where another halt was called, and a visit paid to the cliffs, where is to be seen a peculiar and interesting formation of rock. Some remarkable pseudomorphs after Pyrites in Hæmatite or Turgite, were pointed out to the visitors. The company afterwards returned to Berwick. The excursion was greatly appreciated by all, and it was rendered all the more pleasant by Mr Goodchild, whose remarks and explanations of the different strata were of the most lucid character.

After returning to Berwick, the members dined together in the Avenue Hotel.

ABERLADY AND GULLANE LINKS.—By Mr George Fortune,
Duns.

THE FOURTH MEETING was held at Aberlady, on Wednesday, 29th August. The day being fine one party met at Longniddrie, and drove to Seton Castle and Church. The first portion visited being the Collegiate Church, Colonel Barstow, the tenant, along with Colonel Milne Home, led the way to the church. Colonel Milne Home read a short notice of the church prepared by George Seton, Esq., Edinburgh, one of the descendants of the Setons, describing the church, from which it appears that the church was in existence in 1390, at which date Katherine Sinclair, wife of William Seton, "Biggit ane yle on the south side of the Paroch Kirk of Seton of fine estlar, pendit and theekit with stane with ane sepulchar thairin quhair she lyes."

"Further, George, second Lord Seton, in 1493, made the church collegiate. He built the Sacristy in the reign of James the IV., and died in 1507, and was buried near the High Altar."

"George, third Lord Seton, who was slain at Flodden, covered the 'queir' of the church with stone, and Jane Hepburn, his widow, took down the 'Yll Kirk' built by Dame Katherine Sinclair, and 'biggit the steeple as ye see it now to ane great height swa that it wants little of

completing.'” From these quotations it appears the church was probably re-built about the end of the fifteenth century, and added to by the second Lord Seton. The transept tower and spire would appear to have been erected by the Dowager Lady Seton in the 16th century, after her husband's death at the battle of Flodden.

There appears to be no doubt that the church was rebuilt or restored at the date it was made collegiate, and it is quite in keeping with the style of other churches of late pointed Gothic of the fifteenth and sixteenth centuries, such as that of King's College, Aberdeen, and Haddington Church. The church was dedicated to St. Mary and Holy Cross, and was designed as a complete cross without aisles, having a central tower and spire at the intersection of choir and transepts. The nave has never been built. The north and south end windows of the transepts are large, and divided into two by a large stone mullion, and the rest of the window is filled with stone tracery. The other windows of the church are smaller, and filled with centre mullions and tracery. The spire, which is broached, is uncommon in Scotland, and has never been finished. In 1544 the “auld enemies” of Scotland burnt and destroyed the castle, and consumed the woodwork of the Kirk, and carried off the bells, organ, and other moveables. The church is carefully kept, and too great praise cannot be given to the family of the Earl of Wemyss and March for the careful and conservative manner in which the church has been preserved and restored. The next places visited were the old gardens and orchard, which were famous in their day, and still are so, for their fruit. Large portions of the garden walls are very old, and date from the time of the castle.

There is an old fosse all around the east, north, and west sides of the present building—mis-named Seton Castle. This building was erected by Mackenzie of Portmore in 1770 or thereabouts, and more resembles an asylum than a mansion house. The once magnificent building which stood upon the site of the present mansion was considered the finest building of its kind in Scotland. A castle had long occupied this site, which was greatly destroyed in 1544 by the Earl of Hertford's invasion. The famous building

which was so much admired was erected by George, Lord Seton, and this building appears to have been erected in the Elizabethan style of architecture, similar to Winton House and Heriot's Hospital. Seton Castle was frequently the residence of royalty, having been occupied by Mary (Queen of Scots), James VI., and Charles I. It was in East Lothian that the Setons first appeared as a family.

In 1124 De Sayton or Seton obtained grants of land in East Lothian, the family becoming more and more powerful in the battlefield, as well as in the more intricate paths of statecraft. They were always a loyal race, true to their King and Queen. When Mary escaped from Loch Leven, one of the first barons to join her was George, seventh Lord Seton, who paid the penalty of his chivalrous loyalty by being exiled; and it was the same steadfast adherence to the Royal House of Stuart which produced the downfall of the family in 1715. The then Earl of Winton threw in his fortunes with those of the dis-crowned king, and paid the penalty of his rebellion by the entire confiscation of his extensive estates.

As time is ever on the wing, the next move was made for Gosford, the seat of the Earl of Wemyss and March. After a beautiful drive, the grounds were entered by the west lodge, a building of strange and striking design. This lodge was designed by the eminent artist and architect, the late Mr R. W. Billings, author of the "Baronial Antiquities of Scotland." The lodge is sometimes called "Billingsgate," after the architect. The park and policies are most beautifully laid out, and designed so as not to have any fences in view. The landscape gardening has been most tastefully carried out, with clumps of trees here and there. After a drive of a couple of miles or so, the mansion of Gosford appeared in view, and it may well be named the palace of East Lothian. The extent of the house is palatial. The building was originally designed by the Brothers Adam, and latterly was considerably enlarged and beautified by William Young, Esq., architect, London.

The company were received by the Earl of Wemyss and March, who personally conducted them through the beautiful loggia, staircase, hall, dining rooms, drawing rooms, business

room, billiard room, and library. His Lordship pointed out the valuable and artistic treasures, paintings by Correggio, Tintoretto, Murillo, Botticelli, Rembrandt, Rubens, Jordaens, Paul Potter, and others, as also the rare cabinets and cameo portraits, including one of "Bonnie Prince Charlie": and marble busts, too, of some of the Cesars, with some of the rare sculptured wheel heads in marble from Venice. He further exhibited an implement of his own invention, to be used by soldiers as part of their kit. It can be used as a spade, a pick, an axe, saw, and shield for protection from bullets. It is understood that this ingenious instrument will be adopted by the Army, and become part of every soldier's kit.

After thanks to the Earl for his great kindness, the party was conducted over the grounds, which are of rare beauty and of great extent, along the side of the lakes, where the various water fowl were noted, and on to the gardens, which are large: the vineries, peach and orchard houses were then visited, and the contents much admired.

The party afterwards drove to Aberlady Church, and under the guidance of the Rev. J. Hart, minister of the parish, the church was inspected. The tower and part of the church is old, and of Norman architecture; the rest of the church is of transition period and of much later date. The church has been most carefully restored, and does credit to both the heritors and architect. There are beautiful stained glass windows in the chancel end of the church, one being a copy from the picture by Botticelli, in Gosford. There is a most beautiful recumbent statue tomb in memory of the mother of the present Earl (by Boehm, the eminent sculptor). The pulpit is an open one, of white marble, with porphyry pillars. The baptismal font is also of white marble, with similar pillars. The seating of the church is of oak, and plainly fitted. There is a marble tablet on the north wall in memory of Lieutenant Charteris, who was killed at Balaclava.

After leaving the church, the beautiful gardens at the manse were visited and much admired. The next move was made for Luffness, the seat of Henry W. Hope, Esq. Luffness is a small but very interesting example of a Scotch-

Baronial mansion, part of which has been fortified, and the skyline is very picturesque. The grounds are surrounded by ditches and earthworks raised by the French General, De Thermes, in 1549, who erected the fort for interrupting the supplies of the English garrison at Haddington.

Mr Hope kindly pointed out the various points of interest about the house—the old armour, pictures, and cabinets—with which the company were much pleased. The flower garden and grounds were next visited and much admired. The monastery and church of the Red Friars of Luffness were visited; these are in the grounds. The foundations are all that mark the site of these buildings, excepting a pointed doorway into the choir, and a small piece of wall with a recess and a much-worn effigy, supposed to be that of the founder. There are also the remains of a monumental slab, with an old letter inscription to Kentigern Hepburn of Wauchton, who lived in 1498. There are arms on the shield, in the centre of the cross, and these are the arms of the Hepburns.

The old fish ponds of the monks were pointed out near the ruins of the old monastery. This having completed the day's programme, the party drove to Aberlady and dined in the Golf Hotel.

The following met together at dinner:—Mr A. H. Evans, M.A., F.Z.S., Cambridge, President, and Mrs Evans; Colonel D. Milne Home, Caldra, Duns, Organizing Secretary; Mr George Bolam, F.Z.S., Berwick, Treasurer; Mr John Caverhill, Jedneuk, Jedburgh; Mr I. H. N. Evans, Cambridge; The Hon. and Rev. W. C. Ellis, Bothal Haugh, Morpeth; Mr G. Fortune, Kilmeny, Duns; Mr J. Ferguson, F.S.A. (Scot.), Duns; Capt. J. A. Forbes, R.N., and Mr Louis Forbes, Berwick; Mr David Gilchrist, Musselburgh; Rev. D. Hunter, D.D., Galashiels; Mr G. Henderson, Upper Keith; Mr and Mrs Henderson; Miss Irvine; Rev. R. C. Inglis, Berwick; Mr J. Park Inglis; Mr Stevenson Macadam, Edinburgh; Major J. F. Macpherson, Edinburgh; Mr Wm. Maddan, Berwick; Capt. F. M. Norman, R.N., Berwick; Mr H. Paton, Edinburgh; Mr H. Rutherford, Fairnington Crags, Roxburgh; Mr Charles Rea, Halterburn; Dr Stephen; Capt. Geo. Tancred, Weens; Mr Robt. Thin, Edinburgh.

Botanical and Entomological Notes.—By the President.

The party, consisting of the President, Capt. Norman and Mr George Bolam (Berwick), Messrs W. Evans, Goodchild, and Mears (Edinburgh), Mrs Evans and Mr Ivor Evans (Cambridge), started from Gullane Station for the seaward portion of Gullane Links. Nothing of interest was observed until the golf course was reached, but there Mr W. Evans called attention to a considerable number of the smaller insect forms, including *Aculeata* and *Diptera*, while a few of the commoner butterflies were seen. *Cynoglossum officinale*, *Erythraea centaurium*, *Gentiana campestris*, and *G. amarella* were picked at the same place. Along the rocks on the Aberlady side of the links Mr Goodchild pointed out a considerable number of agates, partially imbedded in the rock, and explained to the members present the geological formation of the coast line. *Parnassia palustris* was exceptionally plentiful and profusely in flower over the marshy parts of the links, which were unusually dry. *Schoenus nigricans* was the only plant of importance picked in the bogs, as there was no time to work the small loch near the shore for botanical specimens. After crossing the Peffer Burn, a considerable amount of *Blysmus rufus* var. *bifolius* was observed, mixed with the typical variety. It was also gathered at the station near Aberlady Church, where it was originally discovered in 1894.

AIKENGALL FROM COCKBURNSPATH.

THE FIFTH MEETING was held at Cockburnspath for Aikengall, on Wednesday, 26th September. Several members who had particularly wished to be present were unavoidably detained at the last moment.

Those present were as follows:—Mr Evans, M.A., F.Z.S., Cambridge, President; Colonel Milne Home, Caldra, Duns, Organizing Secretary; Mr Robert Brown, Duns; Mr Ferguson, F.S.A. (Scot.), Duns; Mr Hood, Miss Hood, Mrs Hood, and Miss Gibson, Linnhead; Mr George Hardy and Mrs Hardy, Old Cambus East Mains; the Hon. Frank Hume, Virginia, U.S.A.; Mr J. M. Loney, Edinburgh; Mr Somervail, Broomdykes; Mr Joseph Wilson and Miss Wilson, Duns; Mr John Wilson and Miss Wilson, Chapelhill.

Members from a distance arrived at Cockburnspath Station at 8-30 a.m., where a brake awaited them, and, after a short stay at the Hotel, drove up to Stottencleugh, alighting *en route* at Oldhamstocks Church, where they were received by the Rev. W. M. Hutton, minister of the parish, who drew their attention specially to the "Hepburn Aisle," a structure attached to the east end of the church, which apparently had been the chancel. The aisle was connected with the Hepburns of Blackcastle, of which property nothing now remains but a field of that name on a hill close to the church.

OLDHAMSTOCKS CHURCH.

A description of the church of Oldhamstocks and its more noteworthy features was contributed by Dr Hardy to the Club's Proceedings for 1878 (pp. 407-8), and it is only needful to supplement it by a few additional particulars. By far the most interesting portion of the structure is the Hepburn burial aisle, adjoining the east gable. It occupies the site of the old chancel; and possibly the walls, the vaulting, which is semicircular, and even to some extent the roof, which is composed of overlapping stone slabs, may be original. The entrance doorway in the south wall is an insertion of the seventeenth or early eighteenth century. The most striking feature is the pointed and traceried window in the east wall. It is no doubt ancient, and may date from the beginning or middle of the sixteenth century. The tracery, which forms three lights, with cusped heads in the lower half of the window, and three quatrefoils of elongated form in the upper part, is of a different stone from the rest of the building, and is somewhat rude in execution, but the general effect is not displeasing. The monials are much wasted, as are also the roughly sculptured heads which form the terminations of the label above. The window is about $4\frac{1}{2}$ feet wide at the sill, the height to the apex being nearly 8 feet 4 inches. The aisle itself measures externally about 20 feet by 17 feet 8 inches. (Plate XI.)

Drawings of the heraldic panels inserted on each side of the window will be found on Plates XII. and XIII. The shield on the south side is divided *per fess*, instead of *per pale*, which is not a usual arrangement. The initials T.H., and M.S., are probably those of Thomas Hepburn, rector of Oldhamstocks, at the time of the Reformation—of whom some account is given in the extracts of Scott's *Fasti* below—and of Margaret Sinclair, his wife. They are undoubtedly original, but this cannot be said of the date, 1581, incised on the lower part of the stone, which is a later and probably quite modern addition. The panel on the north side bears, *per pale*, the arms of Thomas Hepburn, one of the Hepburns of Blackcastle, who was parson of Oldhamstocks



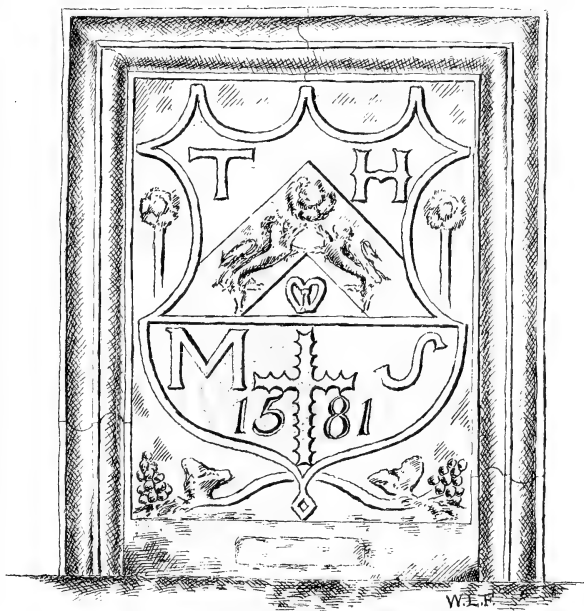
WINDOW IN OLDHAMSTOCKS CHURCH.





HERALDIC PANEL IN OLDHAMSTOCKS CHURCH.





HERALDIC PANEL IN OLDHAMSTOCKS CHURCH.



from 1642 to 1671, and of his wife, Margaret Paterson. She survived him, and was living in 1702. Dr Hardy, apparently following Nesbit, believes the lady to have belonged to the family of Paterson of Bannockburn, but it is to be observed that Nesbit states that the chief on the shield of that family was embattled, whereas here it is quite plain.

Extracts from "Fasti Ecclesiae Scoticae." Pages 376-77.

ALDHAMSTOCKS, OR OLDHAMSTOCKS.

1562.—Thomas Hepburn was one of those thought apt and able to minister by the first General Assembly, 20th December 1560. He was appointed by the Assembly, 4th July 1562, to preach in the unplanted Kirks of the Merse, month about with two others. In 1567, he waited on Mr John Craig, formerly of Holyrood House, and requested his services in proclaiming Queen Mary in marriage with the notorious Earl of Bothwell; was admitted Master of Requests 17th May same year, and in Aug. following had been forfeited "for certane crymes of tresson and lese majestie," which was rescinded however by the Parliament, 25th July 1578. But previous to this he was discharged from the ministry by the Assembly 1576, for teaching "that no soul entereth Heaven until the latter judgment." (Booke of the Kirk, Keith, Row, Calderwood, and Laing's History, Wodrow's M.S., Biog. ll. Acts Parl. 3. Chalmers' Caled. 2.)

1569.—David Hume, trans. fr. Foulden, entered at Beltyn; he signed the Articles drawn by the Synod and presented by the Superintendent to the Assembly in 1572. In 1574, Colbranispeth and Aldcammos were also under his care, with a stipend of jc. lxxxvj. li. xiijs. iiijd., of which he paid xx. li. to a reader. He was a member of the Assemblies 1573, 1576. In that of 24th April 1578, the min. of Perth complained against Adamson, the Visitor, that he had, without his advice and consent, collated Hume to a benefice; continued in 1580, and removed to Auldcamus same year.—

(Reg. Min. and Assig., Booke of the Kirk, Calderwood's M.S. Hist., Wodrow Miscell., and Biog. 2, Melville's Autob. 1580.) Thomas Hepburn, above mentioned, returned; he died 7th June 1585. His Frie geir, d.d., amounted to viijc. lxxx. li. He married Margaret Sinclair (who subsequently marr. Mr Walt. Hay, Provost of Bathans), and had a son Thomas, afterwards in the benefice, and two daughters, Margaret and Geiana. He also left a brother Robert.—(Reg. Assig., Test., and Deeds xxxi., Inq., Ret. Haddingt. 10.)

1585.—James Lambe, Reader of Tynningham 1576, and at North Berwick 1578; trans. to Auldcamus before 1586.—(Reg. Assig.)

1586.—Thomas Hepburne, trans. fr. Auldcamus, deposed by the Synod, 2nd May 1599, for not submitting to their authority in a case of stipend between him and Mr John Lauder, min. of Cockburnspath. Restored in 1601, and was a member of the Assembly 1610. In 1627, there were in the par. about four hundred communicants. He died before 9th April 1629, leaving a son Mr Alexander, afterwards a Regent in the Univ. of Edinburgh, and a daugh. Jeanna, to whom her brother was served nearest agnate.—(Reg. Assig., Sec. Sigill., and Presb., Excheq. Buik, Booke of the Kirk, Syn. Extract, Edin., Presb. and Test. Reg., Stat. Reports 1627, Calderwood's Hist., Inq. Ret. de Tut. 448, Ind. Reg. of Testaments.)

1629.—John Patersone, trans. fr. Denny, one of his Majesty's Chaplains and Elimoziners in Scotland, pres. by Charles I. 21st April; died before 22nd July 1642, having the crop for that year. His vtencils and librarie were estimat at jc. lxxvj. li. xiijs. iiijd, Inventar and debts iiij, m, viijc, xxxii, li, xiijs. iiijd.—(Reg. Soc. Sigill., and Pres., Innerwick Sess., and Test. Reg.)

1642.—Thomas Hepburn, A.M. trans. fr. Lennal, when there were competing presentations, though by whom is not stated, adm. 22nd Sept; died 9th May 1671, aged about 55. His librarie was estimat at viijc. merks, Frie geir dd. jm. viij. xxxviiij. li. He married Margaret Paterson, who survived him, and had a son Patrick, and eight daugh., Barbara, Margaret, Kathrine, Ann, Isobell, Elizabeth, Mary, and Elizabeth.—(Sess., Presb., Syn., Innerw., Sess. Test., and

Edin. Reg. (Bap.), Inq. Ret. Berw. 373, Hadding. 311, Gen. 5529, 5526.)

1672.—John Gibson passed trials before the Presb. of Haddington, and got a testimonial, 19th Oct. 1671, for lessons, and secondary trials before the Presb., and got another 23rd April 1672, for ordination, and was adm. 21st May thereafter; deposed in 1690 for drunkenness. He married Margaret Andersone, and had John, Margaret, Anna, and David.—(Presb. and Sess. Reg., M.S. Acc. of Min. 1689.)

1695.—John Currie, a native of Ochiltree, called in Nov. 1694, and ord. 14th March following; called in Elgin in 1697, but not translated, got a new church built in 1701, and was trans. to Haddington 23rd March 1704. (Presb. and Sess. Reg., Acts of Ass.)

1706.—Harry Robertson, A.M., studied and obtained his degree at the Univ. of Edinburgh 7th April 1675, called 13th Dec. 1705, and ordained 25th April thereafter; demitted 5th., which was accepted 20th October 1731, and died in Edinburgh 30th Nov. 1732, aged about 76, in 27th min.—(Edin. Grad. Presb. Test., and Edin. Reg. Bur.)

1733.—John Lundie, eldest son of Mr Arch. L., min. of Salton. licen. by the Presb. of Haddington 18th April 1732, pres. by Lord Alexander Hay of Lawfield in Feb., and also in March, and ordained 19th July 1733; died 10th May 1786, in his 82nd year, and 53 min. He married 16th Feb. 1741, Helen Lundie, who died 17th Dec. 1744, and had Archibald and Isabel; 2ndly, 7th Nov. 1751, Helen, daughter of John Hepburn of Humbie; she died 15th Jan 1777.—(Presb., Sess., and Syn., Reg., &c.)

1787.—John Cochrane, licen. by the Presb. of Linlithgow 18th Dec. 1780, pres. by Robert Hay, Esq., of Lawfield, with consent of his curators in Oct. 1786, and ord. 22nd March following; died 22nd May 1796, in 46th age and 10th min. He married 19th August 1789, Catherine Miller, who died 15th March 1828, and had two sons, Alexander and Thomas. Publication-Account of the Parish (Sinclair's St. Acc. vii.)—X. (Presb. Reg., Tombst. &c.)

1797.—Robert Moore, A.M., studied and obtained 'his degree at the Univ. of Glasgow in 1781, licen. by the Presb. of Hamilton 26th Aug. 1788, pres. by Robert Hunter, Esq.,

of Thurston, in Nov. 1796, and ordained 6th April thereafter; died 22nd Aug. 1846, in his 87th year and 50th min. He married 8th June 1797, Janet, daugh. of Mr John Boreland of Woodside; she died 29th Nov. 1803, and had a daughter Margaret: 2ndly, 23rd Aug. 1805, Margaret, daughter of the Rev. Daniel McQueen, Prestonkirk; she died 7th Jan. 1810, and had Mary, John Wardrop, and Daniel McQueen: 3rdly, 31st Dec. 1812, Agnes Sleigh, relict of Mr Alex. Miller, Thorntonloch; she died 4th March, 1843.—(Presb. Reg., Tombst., &c.)

Leaving the conveyances at Stottencleugh, the party proceeded in fairly fine weather on foot, under the guidance of Mr Wilson of Chapelhill, and of Mr and Miss Hood of Linnhead, to Aikengall, and passing below the farm house proceeded up Shippeth Glen, the most extensive of all the glens opening out from here into the hills. Some kept the top of the southerly ridge that slopes into the hollow scooped out by the Shippeth Burn, while others, more adventurous, made their way up the course of the burn, no easy matter along a narrow and deep rock fissure, the means of progress being by supporting yourself with hands and feet on each wall, resting feet on projecting bits of conglomerate, and grasping tangle or brushwood the while.

Botanists were busy both above and below; among specimens collected were secured *Sirix gigas*, *Clavaria aurea*, *Vicia sylvatica* or kidney vetch, the bloom of this being still abundant and beautiful; various ferns, such as the spleenwort, the oak fern, and the sweet-smelling *Lastrea oreopteris*.

More than half way up the length of the glen is a crossing-place. Here a short halt was called; a very few thereafter continued their clamber to the apex of the fissure, the rest ascended to *terra firma* above, joining the others from whom they had parted at foot of the glen, and with them crossed the moor to the edge of the "Burnup" Glen so as to view the out-crops there of the Porphyritic Dyke, called "Fairy Castles," and then follow the glen down to Stottencleugh.

For the fullest possible description of what may be sought for and seen in this wild and beautiful hill region, members would do well to refer to the report of the Cockburnspath

meeting of 1885, where, from page 77, is an elaborate account by the late Dr Hardy of the "Aikengall Ravines," bringing out the geological as well as the botanical features thereof, with which all at to-day's meeting were much impressed.

On return to Stottencleugh, the party were most hospitably "refreshed" by a light luncheon, which Mrs Wilson had most thoughtfully sent up from Chapelhill. They were here met by the President, who had walked across the hills from Dunbar.

Hitherto the weather had been forbearingly fair, but soon after return to Stottencleugh the clouds could contain themselves no longer, and rain began to fall, increasing in quantity and coolness, for a stiff easterly breeze set in as evening approached. The party were not sorry to leave their carriages on the road to Cockburnspath and take advantage of the shelter of the thickly wooded "Dunglass Dean," through which, by Sir Basil Hall's kind permission, they filed to the inn at Cockburnspath, staying a short while to view the ruined remains of the ancient church near the Mansion House.

During the Club dinner in the inn, Col. Milne Home read extracts from an interesting letter he had received the day before from Mr G. G. Butler, the Editing Secretary, written at Glacier, Selkirk Range, British Columbia, on 9th Sept., dwelling chiefly on the enormous "Ice Area" of bypast ages in the regions through which his route had been from the mouth of the St. Lawrence, and the tremendous power of the Ice Motor, as shown by its tracks.

Glacier House,
Glacier,
(Selkirk Range),
September 9th 1900.

MY DEAR COLONEL MILNE HOME,

I have had the pleasure of meeting Mr and Miss Fisher at Vancouver, and very pleasant it was to be able to chat about Berwickshire and Tweedside with them, at so great a distance from home. I saw them on my way through, just after crossing the continent by the Canadian Pacific Railway, and before starting northward for a steamboat journey of 1000 miles up the Pacific coast, from Vancouver

to Skagway, in Alaska. I have now returned from a short, but very interesting, sojourn in Alaska (American) and Yukon territory (British); and after many days of steamboat and railway travelling am now settled down here at 4500 feet above sea-level in the Selkirk range, for a few days "rest," which I hope to devote to mountain climbing and to such observation of nature as is becoming in a Berwickshire Naturalist. I met the Governor General, Lord Minto, here to-day, and we were able to compare notes, not only about Tweedside, but also about the Yukon goldfields, from which he has just returned on an official tour. He went off with his family and A.D.C.'s in a special train for the Kootenay District this afternoon, on his way back to Ottawa.

As a geologist of the amateur species I have been greatly impressed by my journeyings hitherto. The "Glacial Epoch" is a thing one takes for granted, and one knows it as a geological period: but the glacial *area* is what is here exhibited. On the journey up the St. Lawrence, from Cape Gaspé to Quebec, I could not help seeing the immense area of ice-work shown by both banks when I could see them sufficiently clearly from the steamer's deck: that is a length of 400 miles of coast. Then between Toronto and Lake Huron, and again, after crossing Lake Superior, from Fort William for 150 miles westwards towards Winnipeg, the railway passed through a rocky country that must at one time have been pressed down by millions of tons of slow-moving superincumbent ice: roches montonnées, or (perhaps better) "whale-backs," appeared everywhere, raising their smooth round humps above the surface of vegetable mould. Lastly, along the 1000 miles of coast from Vancouver northwards, the rocky shores and rocky islands equally bore traces of the same mammoth ice-pressure: and the sides of the narrower fiords further north were smoothed to a great height above sea-level. Indeed, when I had left the fiords 40 miles behind me, and had reached Lake Bennett, which is crossed by the parallel of 60° North Latitude, I found the ice-evidence more conspicuous than ever. Lake Bennett runs north and south for a distance of 20 miles between high rocky mountains, and the slopes of these were glacially smoothed and rounded to the height of quite 1000 feet above the lake, leading one to imagine that the lake had been at one time a channel for an onward flow of ice 1000 feet or more in depth. When this glacial period was, or *how* it was occasioned, the amateur ventureth not to suggest, but he remains profoundly impressed by the enormous area and power of the glacial action.

Then, geologically, the gold mining was interesting. I regret that I have been unable to bring home any large specimens of native gold. But I was a spectator of the finding of a dozen or more nuggets varying in size from that of a pea to that of a pigeon's egg, which were picked up in a few minutes from their natural position on the bed rock of an alluvial deposit, in McKee creek near Atlin Lake. The miners diverted the water of the stream a short way above the

place where they had been shovelling away the sand and gravel, and the bed rock was thus exposed high and dry, showing sparkling yellow lumps of gold wedged in here and there in cracks, or lying helpless on the face of the rock, and resembling, in a curious fashion, small Chinese josses, as they sat in imperturbable indifference, after a retirement of so many thousands of years. The great specific gravity of gold, as compared with rock, makes its hunting and capture a matter of comparative ease; being nearly 8 times as heavy as the granite of the stream's detritus it cannot but sink, till further sinking is stopped by the solid rock; and the deluge of washing that the river gravel receives never washes away the gold, and merely leaves it as the lowest stratum when all the upper strata are carried off by the rush of water. This is, I believe, a question of dynamics rather than of geology.

The question of the Canadian and British Columbian trees is, I confess, a puzzling one to me. Every person I have so far consulted has a nomenclature of his own, and no two agree completely, and most of them differ absolutely. There are Washington pines, Douglas pines, red pines, black pines, spruces, hemlocks, cedars, and Jack-firs; but I cannot recognize, with certainty, a single one of these. The vast number of burnt tree-trunks gives a somewhat melancholy aspect to the scenery. I am told there was a great fire over much of British Columbia 60 years ago, and these gaunt grey skeletons date from that disaster.

I hope that you and your family circle are all well: and with kindest regards to you and them, and to any Berwickshire Naturalists you may shortly meet,

I am,

Yours sincerely,

GEORGE G. BUTLER.

Colonel Milne Home also read a letter from the venerable naturalist, Dr Charles Stuart, expressing regret at his inability to attend to-day's meeting. While sharing his regret, members present could not fail to consider it was best, owing to the inclement weather that had set in, that he had not been with them. At the 1885 meeting, where the doctor was present with 15 other members, he "furnished an outline," as stated on p. 77 of the Report, of what he remarked on two former visits, and an announcement was made that it would appear among the papers of the year. But as it did not appear there, Colonel Milne Home undertook to communicate with the doctor in the hope of his being still able to furnish it, and thereby add to the Club's information regarding the glens of Aikengall. (See p. 269.)

APPENDIX.

Note on an alleged Embedded Toad from a quarry at Coldstream.—By Commander F. M. Norman, R.N.

Dr D. Robertson Dobie, late of Coldstream—before his departure from that town in the summer of 1900—called my attention to a live toad which, it was alleged, had recently been discovered embedded in the sandstone of a working quarry close to his house. I lost no time in repairing thither, but found, as I expected, and as unfortunately seems to be the rule in kindred cases, that the block in which the animal was declared to have been entirely isolated and enclosed had been so broken up that for want of reliable data I was unable to make any examination, or form any conclusion that can be considered final or satisfactory; because the mere statements of workmen unskilled in specific observation cannot be accepted as conclusive, however honestly made or implicitly believed in by themselves.

During my Presidency of the Club in 1884, I treated the whole subject of "Embedded Reptiles" somewhat at length in a paper which appeared in our Proceedings of that year, to which I beg to refer members who may like to consult it.

Suffice it now to emphasize the fact that the chief interest in a living frog or toad found apparently enclosed in a block of ancient stone, lies in the idea, or possibility, of its being coëval with that stone—an idea which must be at once dismissed as a *primâ facie* absurdity, for reasons which I have detailed in my paper. Although, however, a reptile cannot be of the same age as his chamber, his presence awakens interesting considerations, as batrachians have been proved to be able to sustain life for many years in close confinement without means of access to the outer world.

Dr Dobie, who is much interested in, and has taken a great deal of trouble about the affair, produced his toad for inspection, which proved to be an ordinary, fairly well nourished, nearly full grown specimen; as well as a fragment of the hiding-place which contained him, a piece of flattened sandstone 6 or 8 inches square, which to all appearance was the floor of a water-worn recess or cavity, of the sort which are common in Carboniferous strata.

If I were asked how the toad got there, I should say that as a very young and small creature, not long emerged from the tadpole stage, he might have fallen down from the surface, crept into the cavity, and have been nourished by dripping water containing minute insects or animalculæ; or to take a more prosaic view, I might suppose him to have quite recently dropped down full-grown, and to have simply utilised the recess for a few days lodging; but, as all the surrounding features were obliterated, I cannot venture beyond conjecture.

Of course our interest would be greatly increased if we were in a position to determine, beyond reasonable doubt, that the aperture by which the reptile originally entered, at whatever age or size, had since been filled up by infiltration and incrustation, because then we could fix for him a very respectable age, though, as I said, the notion of his having existed in his abode since the Carboniferous era, or even of his having "disported in the same limpid stream in which Adam bathed his sturdy limbs" (to use the fanciful speculation of a former toad discoverer at Bathgate) is untenable; still we might allow the possibility of the animal's having lain where he was found in a torpid state for many years.

* * * * *

Since the preceding note was sent to the printer an interesting example appeared in the *Graphic* of 20th April 1901—"A Curious Find: A Flint Boulder with a Mummified Toad inside it"—which attracted considerable attention. The flint, an ordinary flint from the Lewes Chalk, is apparently about as big as one's fist, and has a cavity in its centre, no uncommon occurrence, which contains the dried-up remains of a toad.

The engraving shows clearly that a hole existed at one end of the flint; therefore in this case there is nothing exceptional in kind, though it is a very interesting one in degree.

F. M. NORMAN,
July 1901.

BERWICK.

THE ANNUAL MEETING for 1900, originally announced for October 11th, but postponed owing to its being the polling day for the Berwickshire Election, was held, according to recent custom, in the Museum, at Berwick-on-Tweed, on Thursday, 20th December, at 11-30 a.m.

The following members were present:—Mr A. H. Evans, President; Mr D. Herriot, Mr Somervail, Mr William Weatherhead, Mr Stephenson, jr., Mr Hughes of Middleton Hall, Mr Giles, Mr Boyd of Faldonside, Mr Watson, Mr Short, Mr T. Darling, Mr G. Bolam (Hon. Treasurer), Capt. Forbes, R.N., Captain Norman, R.N., Mr G. G. Butler (Editing Secretary), and Colonel Milne Home (Organizing Secretary.)

Apologies for absence were intimated from Sir George B. Douglas, Bart., Dr Stuart (Chirnside), Rev. Dr Paul, Mr Campbell-Swinton (Kimmerghame), Mr Campbell-Renton (Mordington), Mr Stirling Cookson, and Mr Ferguson (Duns.)

REPORTS OF MEETINGS.

The Reports of the Year's Meetings were laid on the table by the Editing Secretary, and taken as read, as they would appear in the printed Transactions.

FINANCIAL STATEMENT.

The Hon. Treasurer made his annual financial statement, which was considered satisfactory, the accounts having been duly audited.

PRESIDENT'S ADDRESS.

The President delivered his Address, which dwelt chiefly on the migration of birds. At its close, he nominated as his successor for the year 1901 Sir George Brisbane Douglas, Bart., of Springwood Park, M.A. Cantab.

ORGANIZING SECRETARYSHIP.

The office having been accepted by Colonel Milne Home for the year 1901, he was, on the motion of Captain Norman, seconded by the President, re-elected thereto.

HARDY MEMORIAL.

Colonel Milne Home, as convenor of the "Hardy Memorial" Committee, reported that the Memorial Window approved of by the Club had been placed in Coldingham Church, and was formally unveiled on the 26th June, at the close of an impressive dedicatory service conducted by the Rev. David Paul, LL.D., and the Rev. H. M. Lamont, B.D., (minister of Coldingham Parish). The Committee was thanked and discharged.

BRITISH ASSOCIATION.

Mr G. P. Hughes read and handed in his report as the Club's Delegate to the meeting of the British Association held at Bradford in October.

LIVE TOAD AT COLDSTREAM.

A short note was read by Captain Norman on a Live Toad discovered in a quarry near Coldstream. It was ordered to be printed in the Transactions.

LITERARY MATTER.

Colonel Milne Home, pursuant to notice in the circular calling the meeting, drew attention to the inadequate provision for storing literary matter, and other things sent from time to time to the Club, and moved "That this meeting appoint a Committee to investigate this subject, and report to an early meeting any recommendations they may have to offer." The motion was seconded by Mr Watson, who suggested that the Committee be further instructed to arrange, if possible, for a general catalogue to be made of all the books and papers presented to the Club, and for Indices of the Transactions to be compiled to the end of the year 1900. In the course of discussion, the President and Captain Norman took occasion, amid general applause, to pay a high tribute to the Hon. Treasurer for the pains

he had taken and ability he had shown in bringing out the last part of the Club's Proceedings. The motion, with the suggested addendum, was carried, and the following were appointed members of Committee, viz.:—The President, the ex-President, Captain Norman, Mr T. Darling, Mr Watson, and the three Officials, the Organizing Secretary to be Convenor.

PLACES OF MEETINGS FOR 1901.

The dates and places of meetings for 1901 were discussed, but remitted for final adjustment to Sir G. Douglas, the new President, and the Organizing Secretary.

NEW MEMBERS.

The following were elected members of the Club, having been duly nominated in the course of the year:—

Lawrence William Adamson, LL.D., Eglington Hall, Alnwick.

Robert Brown, Todlaw, Duns.

John E. Carr, Scremerston, Northumberland.

James Hewat Craw, West Mains of Foulden, Berwick.

Alexander Darling, Governor's House, Berwick.

A. H. Leather Culley, Fowberry Tower, Belford.

William Milliken, Swinhoe, Chathill.

James Mitchell, 220 Darnley Street, Pollokshields, Glasgow.

Charles E. Moore, Beaconsfield Terrace, Alnwick.

Thomas Paulin, Albion Brewery, Mile End, London.

William J. Sanderson, J.P., Eastfield, Acklington.

Andrew Smith, Whitcheater, Duns.

Andrew Thompson, F.S.A. (Scot.), School House, Glendinning Terrace, Galashiels.

This concluded the business.

The members present then proceeded to the Anchorage, as usual, in response to Mrs Barwell Carter's invitation. It was a matter of great regret to them that her condition of health prevented her personally receiving them, but they were kindly welcomed by Mrs Henderson, and inscribed their names in Mrs Carter's book, kept for the purpose.

The Club subsequently dined together at the Avenue Hotel.

Notes on some old Earlstoun Localities and Traditions, with Personal Reminiscences of the far-famed "Broom of the Cowdenknowes." By MRS WOOD, Galashiels.

IN an address delivered to the members of the Berwickshire Naturalists' Club in May 1899, there is mentioned a tradition, at one time quite current in Earlstoun, that the knowe called the Hawk Kaim derived its name from the falconry of the Earls of Dunbar having been situated there.

The Earls of Dunbar were the superiors of the lands of Earlstoun from the 12th century till 1435, but a few vague and contradictory traditions and some local names, such as "The Hunt Pools," "The Doocote Knowe," "The Coach Hole," "The Pleasaunce," and "The Ha' Kaim," alone remain to suggest that these Earls or some other great family once possessed a tower or hunting seat somewhere about the east end of Earlstoun.

The name Hunt pools is applied to the green lying on both sides of the Braid Burn, at the Horse Market, and it may have been connected with "The Hunt" of the Earls. The character of the ground in former years used to be wet and spongy, fostered perhaps by the overflowing of the burn in times of spate. On the north side of the stream, however, there were always deep, boggy pools, which have only been filled up in recent years by the rubbish of the village being shot there.

Several years ago, when a well was dug at the Green, the upper surface to the depth of three feet was found to consist of ordinary soil; below that it was composed of black, decayed vegetable matter, and at the depth of twelve feet, embedded in this deposit, were some of the bones of the red deer.

The Coach Hole, a dark muddy pool of the same burn, and near the Green, is pointed out as the place where the

Earl's coaches were washed, but as such wheeled vehicles were not then in use the tradition must belong to a later date.

"The Doocote Knowe"—composed of very fine sand—was entirely levelled when the Berwickshire railway was made, and although the operations of the workmen were carefully watched by many intelligent spectators, nothing of interest was come upon. The land to the north and south of this knowe has been under cultivation for years, and part of it is now occupied by the gasworks and the Board School; but, with the exception of a stone lintel, which is said to have been dug out of the small field on the north side of the school about 90 years since, and afterwards used in the construction of a house, I have never heard of any traces of buildings having been found there. Nevertheless, the late Mr Currie, sculptor, Darnich, who resided in Earlstoun a number of years, says in a note to Dr J. Murray's "Thomas of Ercildoune" that when the gasworks were built at Earlstoun about 1832, he saw hewn pavement turned up, and large chiselled blocks which had been part of the original walls and foundations of the "Earl's tower."

A somewhat perplexing statement, however, in connection with this appears in Lord Lindsay's "Lives of the Lindsays," to the effect that "In the early part of the 12th century the country about Earlstoun came into the hands of Cospatrick, 1st Earl of Dunbar. Cospatrick's only residence south of the Lammermoors seems to have been at Lauder."

The Pleasaunce is the name of two level fields on the south-east side of the burn, and I have been told that some old fruit trees grew there up to a late date.

The Ha' kaim is a knoll of about 130 yards in length, and stands at its highest part some 60 feet above the level of the burn, which flows through a small meadow at its foot. It is a gravel deposit, formed by the combined action of glacier and iceberg with currents, and called a kaim or combe from its resemblance to a cock's comb. There are many of these kaims in Berwickshire, and this one is distinguished in old documents by the name of "The Halcombe." The transition to Ha' kaim—for this used to be the common pronunciation, *not* Hawk-kaim—is easily

understood, but the idea at any rate of perching a falconry on the top of such a steep inconvenient spot is at least far fetched.

This knowe, I may add, was many years since cut partly away at the crag end to widen the road to Cowdenknowes and Redpath, and the formation of the kaim was therefore well seen.

Children were in the habit of climbing up the steep front to dig for earth nuts (*Conopodium*), which grew in great quantities among the trees with which the kaim was formerly covered.

It is a well-known and well authenticated story of the broom of the Cowdenknowes having at one time been so high that a man on horseback could ride through it without being seen, but it was always spoken of in Earlstoun in connection with a time long past. I remember, however, that when Dr Home, who sprang from a cadet branch of the old stock, possessed the estate of Cowdenknowes, I was taken there by my father on one of his visits to the family, and in the drawing room Miss Home showed me a specimen of the famous broom, the height of which fully bore out the reputation it had acquired. It stood against a corner of the room, and resembled a salmon rod, but being taller than the high ceiling, the top part was bent round at least 2 feet to find a place along the wall. I was very young then, but Miss Home was so anxious to impress upon my mind the truth of the fame of the great height of the broom of the Cowdenknowes, that its appearance remains clear in my memory still.

Some years ago I accompanied Mr Wood and Mr Tait of Gattonside to the East Moors, Earlstoun, to see "The Black Dyke," which could then be distinctly traced on the farm of Yarlside—a name, by the way, which is believed to be derived from the Earls or Yarls, who were the owners of the lands. After a long examination of this ancient way, as we turned to go homewards, we came unexpectedly on a group of trees, whose old, battered, and weather-worn appearance excited our curiosity, and the more so when we discovered that they were broom trees—not bushes, but trees—of considerable size and thickness, with stunted and

somewhat twisted branches. They grew, I think, at the south-eastern end of the East Moors, between Yarlside and Whitfield; and as Bromsyde, mentioned in a charter of date 1333, was apparently in that neighbourhood, perhaps these grim looking trees might be the descendants of those which then flourished there, and gave a name to the spot.

There were, in my young days, in Earlstoun many pilferers of the broom, chiefly to sell as walking sticks to natives of the place who had settled in far-away lands. Some of these emigrants, with a passionate love of the old home, had taken away with them both roots and seeds of the broom in the hope of being able to grow them in Canada, the land for which they were bound; but the climate was too severe, and the frosts of a Canadian winter soon caused them to wither and die. As an illustration of this heart-clinging to home and country, I have quoted the verses below, written—with an explanatory note—by the late Mr William Brockie, and published by him in the Galashiels paper, of which he was then editor. The incident referred to in Mr Brockie's note took place, as far as I can ascertain, in the village life of Earlstoun nearly 70 years ago.

“THE BROOM O’ THE COWDENKNOWES.”

“The following lines were suggested to the writer about 14 years ago, upon reading in some periodical a short account of the emigration of an old man named Burnett, from the village of Earlstoun. He was a highly respectable tradesman, but, owing to the misconduct of a wild son, he was driven heart-broken to seek a home in America. So dear to him were the associations of his native land that he was said to have taken with him some of the young broom of the Cowdenknowes, ‘not knowing,’ as Allan Cunningham says, ‘that it would not grow in the land of his adoption.’ This circumstance being told to Sir Walter Scott, affected him so much that his eyes filled with tears.”

"Bring me some mould from Leader's banks,
I'll plant those living coves,
And rear in some wild of America
The broom of the Cowdenknowes;
O the broom, the bonny, bonny broom
O' the Cowdenknowes so fair,
Fareweel to thee, and Leader's streams,
I'll never see thee mair.

Adieu, my native vale, adieu,
Old Rhymer's tower and tree;
But, wae's my heart, the Eildon hills
My dim eyes cannot see.
Alace! my head is hoary now,
And age my back it bows,
Why force me from my father's grave,
And the broom o' the Cowdenknowes.

O! I could lay me down to die,
Were my last hour so near,
Rather than thus be torn away
From all I hold so dear.
O! the broom, the bonny, bonny broom
O' the Cowdenknowes so fair,
Fareweel—a deep heart wrung fareweel—
I'll never see thee mair."

In the address to which reference has already been made in the beginning of this paper, there is given an Earlstoun tradition of the mysterious disappearance of Thomas the Rhymer, the writer of it concluding with the remark, "It is believed that it (viz. the tradition) has never before been printed." I trust, however, that I may be excused for saying that this idea is incorrect, as the story appeared in Dr J. Murray's "Romance and Prophecies of Thomas of Ercildoune," published in 1872, and is to be found there under the heading of "Additional Notes to the Introduction," along with other notes on the same subject contributed by my husband and myself.

Homing Instincts of the Gull. By MRS Wood,
Galashiels.

THE following remarkable instance of the "homing" instinct in a gull, is, I think, not unworthy of preservation in the pages of the Club's Proceedings.

About twelve years ago a sea gull—*Larus canus*—was sent from the Cove, Cockburnspath, to take up its abode in the manse garden at Coldingham. As it was quite a young bird, clothed only with downy grey feathers, a small wooden house was made for its protection, but of this shelter it always refused to avail itself. Its wings were clipped, and the bird, as time went by, became quite used to its solitary life. It ate its daily meal with relish, grabbed all the worms and slugs it could find, treated itself occasionally to the tender heart of a cauliflower, or to a young cabbage, and went its rounds with the stolid indifference of an old captive. One day, however, in September 1897, the gull disappeared, and though careful search was made, to the regret of its owners it was nowhere to be found, nor was the smallest hope for a moment entertained of the probable return of their favourite. Nevertheless, to the astonishment of everyone, the bird suddenly came back in July 1898, after an absence of fully 10 months. It looked much as when it went away, only not so clean and white, and at once took up all its former habits; poking into its old holes, using its old runs, and apparently quite at home in the manse garden. Three or four gulls, which it was thought had accompanied it thus far, remained hovering over the burn near the manse, but, tiring of waiting for their companion, left in a few days, and were seen no more.

I may add that the gull in this year of 1900 is still inhabiting its old quarters.

Notes on a Collection of Lichens by the late Mr J. Hardy.

Communicated to the Club, at Mr A. H. Evans' request,
by REV. H. P. READER, Hawksyard Priory, Staffordshire.

THE gift, generously made to me by the Berwickshire Naturalists' Field Club, of a collection of lichens found by the late Mr J. Hardy, was accompanied by a request that I should communicate to the Club a paper thereon. Accordingly I have drawn up the following notes, after having carefully examined the specimens received.

The plants are mostly well "collected"—no easy thing to do in the case of saxicolous lichens. Mr Hardy, however, seems to have been an adept at the use of hammer and chisel, even where the material to be dealt with was granite! This, and the fair preservation of most of the specimens, makes one perhaps regret the more that so many of them are unlocalized and undated. Where dates and localities are given, I have usually thought it advisable to cut out the note and fasten it on with the mounted specimen, seldom feeling sure of interpreting rightly Mr Hardy's somewhat difficult handwriting and peculiar forms of abbreviation. Were I personally acquainted with the district in which he botanized, no doubt these difficulties would be much reduced.

Mr Hardy seems to have flourished in the palmy days of British lichenology; amongst his personal friends or correspondents being the names of Dr Lindsay, the Rev. Hugh Macmillan, Mr W. Mudd, Mr J. G. Baker, and of others, who studied these plants with an ardour and interest which seems sadly to have flagged amongst British botanists of late years. Such of his specimens as are vouched for by any of the above-named authorities will, of course, be correctly named. Where he himself is responsible for names, I have submitted the specimens to further examination, since it seems pretty clear to me that Mr Hardy was often content to name these plants from inspection, and without reference to details only to be perceived by the aid of the microscope and yet of the utmost importance, as for instance the spores. With these few remarks as preface, I proceed to enumerate the lichens:—

Collema cretaceum = *Leptogium cretaceum*, Sm.

—— *tremelloides* = *Lept. tremelloides*, (L.)

Leptogium tenuissimum, Dicks. "Yarmouth, Dickson, ex herb." Turner, no date, but probably collected at the beginning of the last century. An interesting link with the earliest days of lichen research.

Collema ceranoides, Borr.

—— *melœnum*, Ach.

—— *nigrescens*, Huds.

—— *microphyllum*, Ach.

Trachylia tympanella, Fr.

Calicium curtum, Barr.

Sphærophoron fragile, Pers.

Bœomyces icmadophilus, Ehrh.

Cladonia squamosa, Hffm.

—— ——— var. *microphylla*.

—— ——— var. *decorticata*.

—— *pyxidata* var. *fimbriata*, Hffm.

—— *gracilis*, Hffm.

—— *cervicornis*, Schær.

Alectoria implexa, Nyl.

Ramalina pollinaria, Ach.

—— "polymorpha." There are several specimens so named, all of which I refer to *R. cuspidata*, Nyl.

Cetraria aculeata, Fr.

Platysma glaucum var. *fallax*, Web.

Peltigera horizontalis, (L.)

Parmelia Mougeotii, Schær.

—— *scortea*, Ach.

—— *incurva*, Pers.

Physcia astroidea, Lem.

—— *adglutinata*, Flk.

—— *obscura*, Ehrh.

—— *stellaris*, Nyl. This seems to be the true plant, and not *P. aipolia*, Nyl, which has generally been confounded with it.

Psoroma hypnorum, (Vahl.) A species easily recognised by the subcrenulate margin of spores.

Pannaria nigra, (L.)

Squamaria cœsia = *Physcia cœsia*, Nyl.

Lecanora rupestris, Scop.

———— *aurantiaca*, Lightf.

———— *pyracea*, Ach.

———— *ferruginea*, Huds.

———— *murorum* var. *lobulatum*, Smrf.

———— *parella* var. *Turneri*, Sm.

———— *calcareae*, (L.)

———— ——— var. *contorta*, Hffm.

———— *angulosa*, Ach.

———— *tuberculosa* (fid. Mudd).

———— *luteoalba*, Ach.

———— *pinastri*, Schær.

———— *ventosa*, (L.)

———— *hæmatomma*, Ehrh.

Pertusaria communis, DC.

———— “*fallax*.” Thecæ 1-2 spored indicate that this is
P. communis.

Pertusaria “*syncarpa*” is *P. velata*, Turn.

Thelotrema lepadinum, Ach.

Urceolaria scruposa, (L.) To this is appended a note, not
in Mr Hardy’s writing, questioning the correctness of the
name. The spores, however, show it to be *U. scruposa*.

Lecidea uliginosa, Schrad.

———— *lapicida*, Fr.

———— *minuta*, Schær.

———— *fusco-atra*, Ach.

———— *rivulosa*, Ach.

———— *silacea*, Ach.

———— *albocœrulescens*, Wulf.

———— *lenticularis*, Ach.

———— *grossa*, Pers.

———— *canescens*, Dicks. In fructification.

———— *geographica*, (L.)

———— *sphæroides*, Dicks.

———— *rubella*, Ehrh.

———— *rosella*, Pers.

———— *cupularis*, Ehrh.

———— *exanthematica*, Sm.

———— *vermifera*, Nyl.

———— *petræa*, Wulf.

Lecidea concentrica, Dar.

—— *calcivora*, Ehrh. Perhaps the most unplantlike of plants, resembling a piece of stone punctured by pin points.

—— *parmeliarum*, Smrf. "*Abrothallus Smithii*."

Opegrapha herpetica, Ach.

—— *vulgata*, Ach.

—— *varia*, Pers.

—— — *var. pulicaris*. Lightf.

—— *lyncea*, Sm.

—— *saxicola*, Ach.

Graphis serpentina, Ach.

—— *divaricata*, Leight.

—— *sophistica*, Nyl.

Stigmatidium crassum, Dub.

—— *Hutchinsiae*, Leight.

Arthonia vinosa, Leight.

—— *epipasta*, Ach.

—— *astroidea*, Ach.

—— "*punctella*." Numerous specimens occur thus named by Mr Hardy, most of which are spermogoniferous forms, without apothecia, and none can be referred to *A. punctella*, Nyl.

Verrucaria nigrescens, Pers.

—— *mauroides*, Schær.

—— *maura*, Whlnb.

—— *lævata*, Ach. One of the few lichens that live under water, frequently on pebbles in running streams.

—— *epidermidis* var. *cinereo-pruinosa*, Schær.

—— *immersa*. Somewhat resembles *Lecidea calcivora*, but with 1-septate spores.

—— *biformis*, Bower.

—— *punctiformis*, Ach.

—— *chlorotica*, Ach.

—— *gemmata*, Ach.

—— *umbrina*, Whlnb.

—— "*microstoma*," is *hymenogonia*, Nyl.

—— *plumbea*, Ach.

—— *erratica*, Mass. "*Microthelia pygmaea*."

—— "*ventosicola*." Merely black spermogones of

Lecanora ventosa.

Report to the President and Members of the Berwickshire Naturalists' Club of the British Association and Meetings of Delegates at their Yearly Congress, from the 5th to the 12th September 1900. By G. P. HUGHES, F.R.G.S., Middleton Hall.

MR PRESIDENT AND GENTLEMEN,

In fulfilment of the trust reposed in me by the President and Members of the Berwickshire Naturalists' Club at their Annual General Meeting in October 1899, I submit my report of the Meeting of Delegates from Corresponding Scientific Societies of the United Kingdom to the Congress of the British Association at Bradford, in September last. Just 27 years have intervened between the previous meeting of the Society at Bradford in 1873 and that of this year. In the course of that time the population and area of the city have more than doubled, partly by the absorption of suburban villages, some of which have been almost entirely remodelled. In order to meet the demands of sanitation and convenience of a large widespread population, a thoroughly new and enlarged system of sewage disposal, water supply, and electric car traffic has been completed, the latter being equal to any I have seen in this country, or America. Benefiting by the natural surface water supply from the elevated moors and radiating valleys of Upper Wharfedale, the manufacturers of Bradford, Shipley, and Keighley, which adjoin each other, have been able, economically, to enlarge the manufacture of woollen fabrics, and compete with Leeds, whose water supply is less abundant, with ease and advantage.

At Saltaire, within electric car distance of Bradford, a large and admirably conducted town, manufactories of soft goods, mohair, alpaca, and other foreign wools, etc., have sprung up in the course of the last half-century, and are the property of the 3rd generation of the Salt family, by whom it was originally founded. In the immediate vicinity of Bradford, the iron industry, in the form of gun and iron bridge factories, has been greatly developed at Low Moor, where prosperity reigns at this moment and seems ensured for years to come.

Clay is not abundant in Upper Wharfedale, but by artificial means the boulder clay, containing much stone and shale, is converted into a substance applicable to the finest purposes. However, the sandstones of the adjoining hills are well nigh inexhaustible, and vary from the hardest grit to the fine stone of which the Town Hall and other public buildings of the city are erected. Much prepared sandstone is trained elsewhere, the calliard, gannister, or millstone grit being well adapted for dock gates, the basements of large

buildings, and engine beds. In this quarrying and dressing of stone many thousands of men are employed, and their skill is often appreciated, where a demand for the material springs up.

The coal supply of the Wharfe Valley is derived from Halifax, Pontefract, and Lancashire, within 50 miles of Bradford. The gas of Lord Masham's Colliery, near Pontefract, is brilliant, approaching even the electric light, and is one of the sources from which London derives its gas light. With a large party I visited these mines, on the invitation of Lord Masham, and we descended one of the pits, and, after a handsome luncheon, were conducted round the coal and coke industries, the machine appliances for which comprised some of the latest patents and most powerful generators of energy.

Twenty-seven years ago I attended the British Association Congress at Bradford, of the year 1873, and remember such eminent members of the Society as the Right Hon. W. E. Forster, M.P., Professors A. and W. C. Williamson, Professor Clark Maxwell, Drs Huggins and Hooker, Ray Lankester, and Professors Phillips and Ball. This year the attendance—though affected by the war in South Africa, and the Paris Exhibition, where a series of international scientific and political meetings are being held through the summer months—was an average one of 1915 members and associates.

Favoured by perfect weather, an important adjunct to the creature pleasure of these meetings, and receiving that cordial hospitality for which Yorkshire is well known, the Congress was generally regarded (by the ladies) a success. Scientifically speaking, originality in the papers or sensational discoveries or explorations was not a feature of the meeting of this year. And yet a large share of usefully important work was gone into.

The President, Sir William Turner, tactfully selected for the subject of his address *The Building up of the Animal and Vegetable Frame by a Development of the Cell*, which is microscopical, and composed of a nucleus and outer wall, within which protoplasm occupies the space between wall and nucleus. The discovery was made by *Brown and Schleman* with reference to plant life, and by *Theodor Schwann* in its application to animal structure, in the fourth decade of this century. "This discovery supplied the physiologist and pathologist with the specific structures, through the agency of which the functions of organisms are discharged, in health and disease. It exerted an enormous influence on the progress of practical medicine." Of the nine sections into which the work of the Congress was divided, I was able to attend the opening addresses of three. The most distinctly heard by the large audience in the Hall of the Church Institute, and the most appreciated, was that of Sir George Robertson, the defender of Chitral, of which he has latterly been Commissioner, and the writer of an interesting work on *An Event in Indian History*, and of the methods by which

the stability and homogeneity of the British Empire have been established and maintained.

Sir George Robertson is eminently typical of our East Indian Commissioners or Governors, and he very appropriately selected for his address, *Imperial Highways and Telegraphy*.

I attended the sections *Statistics, Geography, Geology, and Anthropology*; and had an opportunity of supporting two readers of important papers in the statistical section, by some remarks. On these questions Dr Saunders of the Canadian Experimental Farm directorate, Professor Somerville and Principal Hall of Wye College, also spoke. The latter read a paper on carefully recorded experiments in this country and Germany of the *Sugar Beet*. His observations seemed to indicate that beet sugar could be more successfully made in Germany than in the most suitable parts of England, and that as the trade in sugar now is, beet sugar is not a paying article of commerce in England. In Germany the grower enjoys a bounty. In the Anthropological Section an interesting paper was read on "The objects and process of tattooing among uncivilized races," notably among the Maories, Australian Aborigines, and Congo tribes. It is a practice also among our sailors; and is not uncommon among students in the German Universities, who practice duels with broad swords, with the view of acquiring scars, which are legitimately the honoured attribute of the country's defenders in war. The religious significance of tattooing is not clearly known, but is probably intended to signify that a vow has been taken.

Three evening lectures of great practical value and interest were given to the members of the British Association and the general public, in St. George's Hall. The first of these was by Professor Gotch, I.R.S., on *Animal Electricity*, and in the course of it, by experiments with the living electric fish, and by diagrams, he gave a vivid illustration of the vast concentrating and radiating power of several species of fishes in the tropical waters.

The lecture by Professor Stroud, D.Sc., on *Range Finders*, was perhaps the most engrossing discourse of the Congress. He himself has invented the range finder now in use by our Navy, which is of necessity more complicated than those that have been generally used by our Army in South Africa this year. In operations on land a base of 30 to 100 yards can usually be calculated from, and is free from oscillation of the sea wave.

Professor Silvanus Thompson, F.R.S., gave a popular lecture on the *Generation and Application of the Electric Current*, to working men, on Saturday evening. All these lectures were attended by an audience of upwards of 3500, which was near the capacity of the hall.

Ere I conclude this report I shall state briefly the conclusions arrived at by the Delegates from Corresponding Societies, after a very general discussion, presided over by Professor E. B. Poulton, M.A.,

F.R.S., in which every member seemed to take part. The following conclusions were cordially adopted:—

1.—“That a room shall be provided at the Bradford and other future meetings of this Association, in which delegates may meet, become acquainted with each other, and hold informal discussions, between the meetings of the Conference.”

2.—“Regarding a suggestion that an agenda paper should be sent to the Corresponding Societies some time before the British Association meeting, in order that delegates might come better prepared to the Conference, it was decided that although the circular issued in July is an agenda paper, it would be well to add a clause to it, asking that the Secretary of each Corresponding Society receiving it should bring the subjects for discussion at the Conference before the notice of the delegates of the Society.”

3.—“It was also decided by the Committee for Corresponding Societies, that the circular drawn up some years ago by Dr Easton, stating the rules respecting the Corresponding Societies and the advantages granted to them, should be reprinted, and sent in March to the Corresponding Societies, and that at the same time a notice should be sent, inviting the Societies to consider what subjects they wish to have discussed at the next Conference of Delegates, and fixing the date by which suggestions must be sent.”

The following Societies have been added to the list of Corresponding Societies:—

- 1.—The Birmingham and Midland Institute Scientific Society.
- 2.—The Eastbourne Natural History Society.
- 3.—The Natural History Society of Northumberland, Newcastle, and Durham.
- 4.—The Hull Scientific Society and Field Naturalists' Club.

I shall merely add that these resolutions were brought about by a letter I wrote to the Chairman of Delegates last year, when at the Dover meeting; and this, being read to the meeting of delegates, was generally supported by those representatives of Corresponding Societies, who I was aware had, like myself, been dissatisfied with the diminishing opportunities for discussion, and the inadequacy of the place for holding their meetings afforded to the delegates, many of whom had travelled long distances, and were protracting their stay at the British Association Congress, in order to fulfil their duties to their several societies, from whom a report was looked for. I believe the conclusions arrived at, between the meeting of Delegates at Bradford and their Committee attached to the working machinery of the British Association, are of a nature to strengthen the representation of the Corresponding Societies by their Delegates, and thus to lend additional importance to the *value of science throughout the Kingdom.*

A Visit to Aikengall Dean in 1884. By DR CHARLES
STUART, Chirnside.

[THE following interesting account of a visit paid in July 1884 to the scene of subsequent explorations of the Club may fairly find a place in this volume to reinforce, not to supersede, the report of the most recent visit. Dr Stuart explains that he wrote it at the time for publication in the Proceedings, but that by an accident it never reached Dr Hardy for insertion. It is still welcome, in its original form, subject to the following additional note. "The only plants," he remarks, "not mentioned in this paper are *Rubus saxatilis*, the stone bramble, taken in fruit by the Club at their last year's meeting (1900), and *Fumaria micrantha*, the smaller fumitory."]

SHEEPPATH DEAN IN LAMMERMOOR.

In company with two congenial spirits, a successful excursion to this interesting locality was made on the 15th July 1884. Travelling by the 8 a.m. train to Cockburnspath, we found, through the good offices of Mr Wilson of Chapel Hill, a conveyance in waiting to carry us by Hoprig and Oldhamstocks to Stottencleugh in Lammermoor, distant about six miles. The road is very hilly and rough, and a sure-footed horse desirable, as the bed of a stream constitutes the only road for a certain distance, which must make it in heavy flood a rather difficult place to drive over at all. Leaving our conveyance at Stottencleugh, we ascended the dean of that name behind the house, which is well wooded and steep. The only plant obtained worth mentioning being the gueldres rose (*Viburnum opulus*), which grows wild in most of the Lammermoor deans. Coming out at the head of the ravine, we kept by a wire fence along

some cultivated fields till we reached the heather, and held over the moor in a north-west direction. Among the heather a meadow pipit flew off her nest, which contained four brown eggs, but no egg of the cuckoo. The structure of the nest was a marvel of skill, built among the roots of the purple heather, and so carefully concealed. The petty whin was the only noticeable plant on the moor. The purple heather was in fine flower, and where it grew in mass it was of a glowing red. On attaining the summit, we looked into East Lothian, the monument at the Garleton Hills, North Berwick Law, Thurston Woods; the farms of the Brush and Pathhead, etc., being all in view.

The weather was perfect, and the sun lighted up the landscape, which was very rich and finely wooded. In the Hall's Dean, splendid specimens of *Carex levigata* (smooth-stalked sedge) were obtained on a moist rock face. The *Cistopteris fragilis* (brittle bladder fern) and *Lastrea oreopteris* (mountain fern) being in profusion. Coming down on the road from Innerwick to Aikengall we took to the right, behind the shepherds' houses, and on attaining the summit we came to the lower end of Sheeppath Dean, sometimes named Aikengall. Scrambling down, we followed the burn running through it, as far as we could go, gathering *Vicia sylvatica* (the wood vetch) of a beautiful pale flesh colour. One requires to come to these ravines to see this plant in its full beauty. On the sea braes it has never the same tint. All up this ravine it hangs in masses over the scaurs covered with its delicate flesh pink blossoms. These masses constantly recur, and, with the luxuriance of the ferns, the contrast is remarkable to behold.

The stream is bordered by very steep, rocky banks clothed with greenery, quantities of the *Cistopteris*, with fronds of unusual size, gracefully drooping towards the water. Among the mosses the *Geranium Robertianum*, with its pink blossoms, and the *Lychnis vespertina* and *dioica* and other common plants give colour to the greenery covering the rocks; the oak-fern, with unusually large fronds, being in profusion near the lower waterfalls.

Progress is not easily made here, the banks being very steep, and the bed of the stream our only path. Retracing

our steps, we scrambled to the summit, and, after walking for a short distance, again descended to the stream, which we followed without difficulty to near the head of the dean. On the mossy banks profusion of *Myosotis sylvatica* (wood forget-me-not) blue, white, and pink, were met with on the right hand side of the stream.

Melica nutans (mountain melic grass), which always loves to grow near the spray of the waterfall, was in quantity, with its graceful nodding heads. On the same moist face *Crepis paludosa* (marsh hawksbeard) showed its preference to a moist mountain wood. The pink and white lychnis grew all over the place, with the pink cranesbill; while *Geranium sylvaticum* added its blue to form a contrast. The Gueldres rose, with its globular snowball flower, is plentiful. *Cnicus heterophyllus* and *Carlina vulgaris* occurred in several spots.

If the dean is entered from the south side there is a sort of path made by the hunters to allow the hounds access, down which the botanist can scramble, and it is above this point where the best of the plants are to be found. *Trifolium medium*, with flowers of a glowing red, grows close to the *Melica nutans*, and is a remarkably pretty plant. The *Lonicera periclymenum*, clambering up the trunks of the spruces, or on some decaying stump, diffuses its fragrance in honeyed balm.

On the more sloping banks on the south side of the dean the mountain fern, with its pale green scented fronds, covers a large surface, forming a half shrubby covering, which cannot fail to attract the admiration of every lover of nature. In several places my attention was particularly attracted by peculiar forms of *Aspidium aculeatum* var. *lonchitioides*. They, from the length and narrowness of the fronds, are striking plants for cultivation. Proceeding onwards we arrive at a steep rocky scaur on the left hand of the stream, covered with moss; in the moist crevices a profusion of *Asplenium trichomanes*, the black spleenwort. Nowhere have I ever seen more beautiful forms of this elegant fern. The rock on which it grows is almost too steep to climb, but plenty is within reach, and I sincerely hope that ruthless collectors will be careful of extermination. It is rooted among the moss, and the circles of its fronds

are everywhere. *Rosa canina* and *R. caesium* clothe the banks here with the Gueldres rose, while the stitchworts clamber over the rose-brakes in great luxuriance.

The seclusion and stillness of the dean is remarkable, for if we except the carol of the lark from the uplands, and an occasional note from the blackbird, no sound of bird life is to be heard. In the lower part of the dean the grey sandpiper was flitting about the stones in the stream, and earlier in the season the water-ousel will, no doubt, breed here. Mosses and *Jungermania* are in fine fruit all over the moist banks. *Sedum villosum*, with its pretty pink flowers, showed through the damp moss, and surrounded by the fragrant mountain fern. We lunched by the edge of the burn, and refreshed after a pleasant walk and scramble. Immediately above where we were sitting, a dyke of brown sandstone intersects the greywacke, allowing only space for the burn to pass. A mountain ash strikes its roots firmly through the crevices of this dyke, on its southern aspect, and the extraordinary manner in which it has fastened itself is worthy of examination.

Small plants of *Asplenium trichomanes* grow on this rock with many other plants. We now clamber up the south bank and gain the moor table-land, taking a south-east direction for the next ravine, which is only partially wooded. The distance across can hardly be a mile, and when the brink of the ravine is reached, if found too steep for descent, by walking higher up, a better place for descending it may be discovered. In going down we get into a soft boggy place among some willows, where we picked some splendid specimens of *Marchantia polymorpha*, covered with its umbrella-shaped fruit. This was one of the most remarkable plants I had met with on this occasion. A patch of it taken carefully up, brought home and placed in damp moss under a bell glass, in a pan of water, would have astonished the uninitiated. Under the willows, on a moist face, it covered a considerable space. In company with it grew stately specimens of *Carex levigata*. The ravine here is very steep, and the bottom covered with loose stones. Torrents of melting snow in winter come down here from the surrounding hills.

Although much rain had fallen for the past week in the Merse, there seems to have been none here. The bed of the ravine was quite dry, except where occasional springs were met with. Two old black cocks were put up in this ravine feeding on the fruit of the Alpine strawberries, which are here abundant. A few grouse were seen on the moors. The meadow pipit, thrush, chaffinch, stonechat, wheatear, and wag-tail were the principal small birds met with, and there was a disappointing want of variety as regards bird life. The physical appearances are undoubtedly the features, which will engage most attention here. The wonderful boulder clay banks, full of water-carried stones, rising in some places to the height of a hundred feet, are very striking. A most remarkable dyke of brown sandstone intersects the lower part of the ravine, in a slanting direction, and no doubt is a continuation of the one we saw in the higher part of the Sheeppath Dean. We came to this conclusion after seeing the first one, and comparing the direction from which we had come. Its definite inclination, both here and at the other dean, led us to this opinion. This dyke is popularly named by the country people "Fairy Castles," and is for itself worth coming all the way from Cockburnspath to see.

The whole region is classical, having been carefully explored by the late Sir James Hall, Dr Hutton, and Prof. Playfair, as regards its geological features. Many cracks or landslips in the sides of the hills—carried away by melting snow, and named "Steels" with the name of hill prefixed, where they occur—are seen on the hill sides. These names are similar to other Border designations as "Laidlaw Steel," etc. The ravine we are traversing brings the wanderer out at Stottencleugh, a rather painful journey in a warm day for the feet, the loose stones being very uncomfortable to walk over. As we walk downwards, the beautiful wild thyme (*Thymus serpyllum*), in many shades of pink, delights the eye, covering as it does, as with a carpet, the gravelly and stony bed of the almost dry ravine. The stately foxglove grew on the banks among the ferns further down, in many shades of rich purple. Under a shady rock the golden saxifrage, beech fern (*Polypodium phegopteris*),

and oak fern (*P. dryopteris*), were all growing in company. On the crumbling micaceous schist, *Fragaria vesca*, in a most minute form, was very pretty, the plants often only bearing a single berry in their centre. On the rock garden I find they adhere to this miniature habit, and are therefore interesting objects there.

Altogether this excursion is a most interesting one, and with good weather I expect the Berwickshire Naturalists' Club to be thoroughly pleased when they go there next summer. After a long walk over the stones, we reached Stottencleugh at about 5 p.m., and made the journey to Cockburnspath Station in time for the six train, which conveyed us to our homes in good time, with our vascula well filled.

To the foregoing account Dr Charles Stuart now (Sept. 1901) desires to add the following list of plants not recorded in the district:—

Geranium sylvaticum, Flora alba.—A beautiful form, unknown at Kew or Royal Botanical Gardens, Edinburgh; near Preston on the Whitadder.

Centaurea nigra.—On the railway banks between Reston and Reston Mains.

Habenaria bifolia, butterfly orchis.—On railway banks between Reston and Reston Mains.

Mimulus rivularis.—On the Eye, near Grants House.

Trollius Europaens.—Edington Woods, and strips on Foulden West Mains.

Malva rotundifolia.—Banks of Whitadder, West Foulden.

Malva moschata, Alba.—Banks of Whitadder, West Foulden (getting scarce). Naturalized near my house, Chirnside.

Linnaea borealis.—Brockholes Wood, Drakemire, near Grants House; abundant, and increasing.

The Changes which take place in Plants in a wild and cultivated state. By DR CHARLES STUART, Chirnside.

It is a very difficult matter to account for the changes we observe in plants botanically related to each other. So many different points have to be taken into consideration, as regards soil, situation, and exposure, before a permanent form different from the original type is maintained. It may be an improved form that is evolved after a struggle, and is, no doubt, nature's effort without any artificial crossing or hybridizing by human agency at all. I feel convinced, both in field and garden, we have many instances of species evolved naturally. No doubt the botanist recognises these improvements, and selects what in his view possess the most distinct variation.

In a mass of seedlings naturally produced, there are many weakly, bad constituted individuals, which eventually disappear after a struggle for existence, where they show an unfitness to live or combat the climatic changes that they would be exposed to. Take the Natural Family Cruciferæ for instance, as a good example of how variations continually take place in varieties. This I saw for myself, before knowing what is now patent to every one; and the following facts, which seed growers are all aware of, shows the care that is necessary to prevent the crossing of varieties

of the cabbage tribe. Some sprouting broccoli, growing under a netted enclosure, flowered and ripened their seeds well. Some of these seeds were sown, never dreaming of any crossing or hybridizing. The produce, however, opened my eyes. A regiment of plants of a coarse kale constituted the produce, which failed to give the fine succulent growths we were accustomed to gather from the sprouting broccoli. Some coarse cabbage had flowered in the neighbourhood of the sprouting broccoli. Pollen carried by bees or moths had fertilized the blooms, and completely altered the type of the plant. Selection must always be taken of our most robust plants as seed-bearers, and by that means a strain becomes established, which can with great care be maintained.

Many of our wild plants in nature are hybrids. That crossing varieties does not always give seed bearing forms is well known. Indeed, the capriciousness of flowers in this respect is unaccountable. For instance, the flowers of a variety may refuse to respond to the pollen of another of the same family; while the pollen-bearer may reciprocate from the other side. In the *Rhododendron* family, this has often been proved by hybridists. I have experienced the same difficulty. Species and sub-species are nature's work, and their existence it is very difficult to give an account of.

I give an example from personal experience. About ten years ago, when at Killin with the Scottish Alpine Botanical Club, we made our excursion to Lochan Laragan, a wild tarn situated on the watershed between Killin and Glen Lyon, on the old hill road to that region. The precipices all round the loch have a north-east exposure, and very moist, and are covered with alpine and ferns, *Woodsia Alpina* among the number. Having gathered all I could get, by the course of a very steep mountain torrent which had made a way for the water to get to the loch, I, after a laborious ascent, reached the plateau with the rocks of Meal nan Tarmachan towering above. Several members of the Club ascended these rocky precipices to the summit, without getting much. The minister of Killin, the Inland Revenue Officer, two gentlemen who had got

the President's permission to accompany the party, went with me along the foot of these rocks, with not much success botanically. However, on a wind-swept projection of precipice I observed a tuft of *Veronica saxatilis*, with a rose pink coloured corolla, the base of each corolla having a deep crimson circle. Unfortunately the plant was growing on a point of rock inaccessible to me. One of my companions however, of lighter build, volunteered to climb to the place, and with my Alpine-stock rooted out the tuft, which fell over the rock at my feet. Another tuft a little further off was also obtained, growing on bare rocks of similar character. The colour of the corolla of *Veronica saxatilis* is a blue of a lovely shade; in this new variety it was rose pink, equally beautiful. After growing this plant for ten years, it has kept to its true pink colour in the main. The produce of the seed has also come true—a beautiful rose pink. Within the last year I was rather astonished, at the flowering season, to observe a blue flower of the type show itself. Whether this blue came from a chance seed in the soil, or a reversion to the original *Veronica saxatilis*, I cannot make out. At all events I do not consider there was any crossing here. *Veronica saxatilis* var. sub-sp. *Stuarti* is a true sub-species of *V. saxatilis*, and I shall endeavour to prove it by another example.

While botanizing with the Scottish Alpine Botanical Club at the Spital of Glenshee, on a bye day I was fishing in Glen Loxie, and on a high bank I observed several spikes of a beautiful salmon pink *Digitalis* growing out of a number of flowering spikes of the ordinary type. I had no spud with me, but I cut out these salmon coloured spikes from the clump of the ordinary type, and brought them down to the hotel. The late Professor Dickson was standing at the door when I arrived, and I showed him those salmon coloured spikes. He enquired why I had not brought the roots; and further observed, I am afraid you will lose those beautiful forms, the seed pods being in an immature condition. The spikes were brought home with me in my vasculum; placed in bottles of water, in a sunny window. After about three weeks some of the pods ripened, and the seed was immediately sown in pans,

and hundreds of plants obtained, which were kept in a cold frame till next spring. Planting them out in May, a few showed flower in the autumn, of the same salmon pink colour of flower as the seed-bearer. Not one flower of the ordinary type was seen either that or the next season. I cultivated this *Digitalis* for several years, but from want of care it was lost altogether. Two years ago I was rather astonished to see my friend among "my wilderness of flowers"—self sown, and true to character. Carefully the seed was saved, sown, and numerous plants obtained. Amidst a mass of the ordinary form, only six plants of the salmon coloured break were to be seen. Now, no one but myself saved the seed and sowed it, or planted the seedlings outside, so that I can guarantee that no mistake was made. Here was a reversion to the type, arising from what I consider the seed-bearer having got into a wild condition. The question arises, had the seed-bearer been cultivated in good soil, and taken care of, would not all the seedlings have assumed the salmon colour? I cannot tell this, but I suspect it, from former experience. Here, in consequence of allowing the seed-bearer to run wild, a number of "Rogues" showed themselves. The Glen Loxie pink *Digitalis* was a true instance of the subspecies or sport from the original type, which might have been perpetuated true, had it not been allowed to run wild, sow itself, and finally revert to the original pink type. In my experience I have not found in a true hybrid this tendency to revert to one or other of the parents as in the *Digitalis* just described, although by careful cultivation I consider the salmon pink colour might have been confirmed.

To take an instance of true stability in a species, I will describe the following example:—About ten years ago, when botanizing in Connemara, west of Ireland, with the Scottish Alpine Club, we visited Roundstone, and on Urrisbeg collected the true Mediterranean heath and the maiden-hair fern. On returning to Cashel Bay, where we remained for a few days, several members drove to Roundhill, near the junction of the Clifden and Roundstone roads, to the station for the *Erica Mackayana*. We had not

been long engaged in gathering specimens, which were in fine state, when I directed attention to a slender form of *Erica*, growing among *E. Mackayana*; but it was not supposed to be anything novel till I showed Mr Robert Lindsay, who was working next me, who thought the plant a distinct novelty, and a most remarkable plant. Digging up plenty of specimens, we returned to Cashel Bay Hotel, where we joined our friends. This new *Erica* was submitted to critical eyes, and a universal opinion expressed that a new form had been discovered. Considering that I had been on the summit of Cashel mountain in the morning, and not with much success, I felt rather elated with my good luck on Roundhill. Although we failed to find *Erica ciliaris* at the station indicated by the late Prof. Balfour, I believe we were never near the real locality, which I am strongly of opinion is near Roundstone. The new *Erica* is a plant of slender growth; tips of the short pale green and yellow; the corolla compressed of purplish pink colour, and the habit of the plant rather prostrate. On returning to town, specimens were submitted to Dr Macfarlane, now Professor of Botany in the University of Philadelphia, a skilled botanist and microscopist, who critically examined the plants, and came to the conclusion—in an exhaustive paper on the subject, read by him at the Botanical Society, Edinburgh—that this *Erica* was no hybrid, but a sub-species of *Erica Mackayana*. It was named then and there by the Botanical Society, *Erica tetralix Mackayana* sub-sp. *Stuarti*, after the finder. After growing and flowering the plant for more than ten years, I have arrived at the conclusion that *Erica Stuarti* is a true species. My friend, Mr Lindsay, is of a similar opinion. He writes me, that “I am by no means pleased that your *Erica*, a real novelty, is relegated to a position as sub-species, as it is much more distinct than many true species.” Mr Lindsay, formerly Curator Royal Botanic Gardens, Edinburgh, has worked more than any man I know in hybridizing species and crossing varieties; and from the behaviour of the plant with me, I consider it to be a species, and a very distinct one.

It is only now that *Erica Stuarti* has come under the general notice of botanical authorities, as specimens were

scarce. Now, however, there is a general wish that the opinion of several experts should be got, and the Rev. Mr Linton, a well-known authority, has expressed a wish to know more on the subject, and will have a flowering specimen this spring. I hold the opinion that *E. Stuarti* is a true species on the following grounds. (1) It has no family resemblance whatever to *Erica Mackayana*. The habit of the plant is entirely different. The foliage has some slight resemblance, but the corolla is a longish shaped, compressed, purplish pink, with more resemblance to *Erica Mediterranea*, which grows miles away. That *E. Mackayana* is a sub-species I believe, for there is a strong family resemblance; but *E. Stuarti* as a species has no resemblance whatever to either *E. Mackayana* or *E. tetralix*. *Erica ciliaris* has also a strong resemblance to *E. tetralix*, but that plant has distinct botanical distinctions that constitutes it a true species.

The bell heather type is well maintained in all three forms, *E. ciliaris*, *E. tetralix*, and *E. Mackayana*; never in *E. Stuarti*, which I consider to be a true species, and a very distinct one. I have flowered the plant for ten years every season. It has never shown the least tendency to sport or revert into the type of anything but itself. The seed is so minute that up to this time I have failed to raise seedlings; but I do not despair, and I would be glad to know of anyone who has succeeded in doing so.

In the Botanical Natural Family Primulaceæ there are two plants held by many botanists to be almost the same, as far as differences or distinction exist between them. I refer to *Primula scotica* and *Primula farinosa*. Whoever has seen those plants growing in their native habitat could never say they were so like, that botanically there was no difference between them. *Primula scotica*, a gem among primroses, grows in thousands on sandy dunes in Caithness-shire, Sutherlandshire, and often near the sea, or where the sea has at one time been. *Primula farinosa*, another very beautiful member of the same family, prefers a limestone district, like Teesdale in Yorkshire, where it flourishes in the month of June in great beauty.

No one who has seen these two plants growing could ever say they were, to an ordinary observer, even very like; yet there is, according to scientists, very little difference botanically between them. *Primula scotica* is like a small auricula, with abundance of white farina under the foliage, and a flower of pink or purplish colour; in height not above two inches, or less. Sometimes the flowers of *P. scotica* are sessile, reclining on the foliage without fast hold; this is never the case in *P. farinosa*. The flowers of *P. scotica* are never white, but in *P. farinosa* specimens with white flowers were gathered near the Caldron Snout, Cronkley Fell, Teesdale. These two plants are instanced to demonstrate that although nearly related botanically, they both maintain a distinct external appearance at least; and in this respect differ, like the Connemara heath, entirely in outward appearance.

Aquilegia Stuarti (named by the late Professor Balfour) is a cross between *Aquilegia glandulosa* and *A. Witmanni*. The latter is said to be a cross between *A. vulgaris* and *A. olympica* Boiss. *Aquilegia Stuarti* flowers three weeks before any other Columbine, hence plants raised from seed come always true. For twenty years, treating this plant as a hybrid, I have never failed in raising plenty of plants, which in flowering have never shown any tendency to revert to either parent. Strange to relate, within the last few years, this Columbine has failed to flower as freely as formerly. Last year, however, I never saw it finer, the individual flowers being four inches across, and very high coloured. Can any cause be assigned why the flowering of this plant is not so certain as formerly? The true form of *A. glandulosa* I have grown from Gregor of Forres for fifty years.

A Siberian species had the same bad habit of failing to flower, and, when I first worked with the plant, I considered it a great triumph to force it to flower by lifting the plants from the open and planting them in pots, and placing them in a small greenhouse, where the blooms came so refined and elegant that they were the admiration of everyone. I have great doubts that Mr Gregor of Forres' strain of *Aq. glandulosa* is now in existence, as it has been crossed and worked with by many florists. The last plants of the

true strain I saw in the garden of Mr W. Boyd, at Ormiston, near Roxburgh Station, many years ago. Of course, there is plenty of so-called *Aq. glandulosa* to be had, but the strains are too free flowering to be true. *Aq. Stuarti* has always been true and stable, with no reversion to any other Columbine whatever.

In closing these remarks, I consider it more satisfactory to the general reader that plants which I had personally worked with should be instanced to illustrate statements, which may lead to controversy on the subject of evolution, in preference to information derived from books and other sources on that subject, and this must be my apology for seeming egotism.

Facsimile of Grant to George Sinclair, made by Queen Mary at Hermitage Castle, October 16th 1566.

It has been known for some time—but apparently is not very generally, even yet—that there is in existence the register of an appointment made by Queen Mary at Hermitage Castle, on the 16th of October 1566, the facsimile of which is given. (Plate XIV.) It is so very unlike anything that anyone would have supposed, as to go far to bear out Hosack's contention of the business character of Mary's ride to Hermitage, which, if she took the line traditionally alleged from Jedburgh, was not much less than sixty miles, there and back.

The paper called *Queen Mary at Jedburgh*, by Mr Small, a member of the Scotch Society of Antiquaries, and printed in their Proceedings for (I think) 1881, gives the fact and the date of the appointment; but this does not fully convey the curious irrelevancy of the document to the circumstances as given in the official statement, namely, that she had gone to Hermitage in desperate haste to see Bothwell, on hearing of his being wounded.

Even Claude Nau, Mary's faithful secretary, seems to have known nothing of Hermitage being a royal fortress—one of the most important castles on the Borders—but supposes, naturally enough, that Mary's visit was an attention to Bothwell, the Warden of the Marches, who had been somewhat severely wounded in a hand-to-hand struggle with one of the most conspicuous of the Border warriors, who maintained a kind of independence of both England and Scotland.

One is inclined to think that Hermitage had probably been intended as the next place on Mary's route after the

Jedburgh assizes (which she had sat through after hearing of Bothwell's wound), and that a heap of papers were awaiting her signature there. A search in the register has failed to show any other document of the same date. But there is a special reason why this one should have been promptly entered; the volume containing it is entirely, or mostly, in the handwriting of the father of the recipient of the appointment. That is not in any way remarkable, except as a fine specimen of a monopoly.

The system of monopolies appears to have helped to bring on the civil wars in the next century, especially in England. This seems perfectly clear, that no will made in Edinburgh was to hold good unless it was drawn up by Master George Sinclair, son of Thomas Sinclair, writer.

That Mary had not gone to Hermitage till after the six days of the assizes was Lord Woodhouselee's discovery in the last century, and it certainly strengthened the arguments of those who did not believe she had murdered Darnley in order to marry Bothwell.

That she returned from Hermitage to Jedburgh the same day may probably have been due to the prosaic consideration of the intense inconvenience of a royal visit to a feudal castle, with the lord laid up.

The change from the singular to the plural in the references to the sovereign in the register is owing to Mary's marriage to Darnley, who was created King Consort.

This, though it probably helped to turn his head, was by no means so inappropriate as people suppose, who think Darnley was a private individual; for his position was that of heir to the English crown after Mary herself.

The photograph of the register was taken by Mr Bashford of Portobello, who—though it is a most excellent representation—considers it slightly distorted by the inevitable curve of the original, from the binding of the volume.

We are indebted to Mr Maitland Thomson, the actual custodian of the register, for the transcript of this entry, with the contractions expanded. There is a good deal of superfluous spelling as it is, and without his assistance the document would hardly have been legible.

Gim



Sinclair

NO 120 made To Master George Sinclair Constable of
 Sinclair writtane Off ye gift of ye office of ye formyng writtane and gift
 of all and quene's moneys testamentary and timentary part of the
 heretofore Catharine robe of summe 60 ye commissary of edyff for as ye
 dame of the lyfe C. Ingill office p'dicte to b'mquyle m' m' m' m'
 Robt advocat of edyff and w'ch b'it to him' 60 p'dicte of the
 lady's gift under his g' p'mo s'ile m'nd to him' p'm' m'nd and not the
 his s'ecre' s'ecre' ag'nt in your hon' s'andis and at your d'sp'ositi' m'
 p'dicte to ye said m' george to b'it and s'ecre' ye said office and to m'nd
 and b'it all for s'ecre' and casualty' m'nt and m'nt part of edyff
 and all s'ecre' as ye said b'mquyle m' m' m' m' m' m' m' m' m'
 In tyme bypast Indur'ing his lyf tyme as said is (but our s'ecre' m'
 w'ch s'ecre' m' ye said to ye said commissary of edyff p'dicte
 s'ecre' and collecti'ns of ye s'ecre' of ye said testamentary to s'ecre'
 and adm't ye said master george in ye said office s'ecre' aff' m'
 m'
 in na m'nd of testamentary nor timentary bot for as onlie as s'ecre'
 writtane or s'ecre' m'nt to ye said m' george s'ecre' ye s'ecre' of ye said gift of
 w'ch m'nt to your m'nt s'ecre' your obedi'nce m' m' m' m' m' m' m' m' m'
 the day of october the year of god 1564

For Signature

REGISTER OF APPOINTMENT OF GEORGE SINCLAIR
 MADE BY QUEEN MARY AT HERMITAGE CASTLE,
 OCTOBER 26th, 1564.
 (Photographed from the Original Document).

(From) Copy made by Mr J. Maitland Thomson from the register (in the ordinary charter-hand) in the writing of Thomas Sinclair, the father of the recipient of the grant—who was himself an official in the Scotch Register House—of the appointment of George Sinclair to an office in Edinburgh, made by Queen Mary at Hermitage Castle, on the 16th of October 1566. The office seems to be that of the *writer of wills*, which has no exact modern representative.

“Ane letter maid to Maister George Sinclare, sone lauchfull to Thomas Sinclar, writtare, of the gift of the office of the formyng, writting and perfiting of all and quhatsumevir testamentis and inventaris thair of quilkis heirefter sal happen to be confirmit be the commissaris of Edinburgh, ffor all the dayis of his lyfe; quhik office pertenet to umquhile Maister Williame Kowy advocat of befor and was usit be him be virtue of our Soverane ladyis gift under hir graxis prive seile maid to him thairuponne, and now throw his deceis be come again in thier hienes hands and at thair dispositioun: with power to the said Maister George to use and exerce the said office, and to intromet with and uplift all feis, dewties and casualteis aucht and wount thair of, siclike and als frelie as the said umquhile Maister Williame had for using of the samin in tymes bipast, induring his lifytyme, as said is, but ony revocatioun, &c.; with command in the samin to the saidis commissaries of Edinburgh, procuratour fischall and collectouris of the cottis of saidis testamentis, to resave and admit the said Maister George in the foirsade office, fortifie, assist and manteine him theirentill, and that thai conferme nor admit to be confirmit na maner of testamentis nor inventaris but sic as onlie ar formit, written or subscrivit be the said Maister George eftir the tennour of the gift, as thai will anser to thair majesteis upon thair obedience, &c. At Armetage, the xvi day of October the yeir of God jmvclxvj yeiris.”

Per Signaturam.

*Additional Notes on the Hermitage Grant.**By Miss Russell.*

Since writing the notes which accompanied the photograph of the register of Queen Mary's grant to George Sinclair, obtained by me for the Berwickshire Naturalists' Club, I have found Thomas Sinclair, with another son, in the Laing charters (which seem likely to prove a valuable source of information, chiefly as regards Scotland.)

The father is called "writer to the Privy Seal," and Henry Sinclair appears as a witness.

They appear in a document about some property in or near Haddington; and one's impression is, that everybody concerned, including the Sinclairs, was connected with that town. The date, I think, is 1564. I do not remember the number of the charter, but the names are in the copious index.

I find also that (though it is difficult for us to realise such a monopoly as that which ordained that no will in Edinburgh should hold good unless drawn up by George Sinclair) something analogous did exist—in fact—down to the present generation.

The old Scottish town clerks had the monopoly of all business connected with property held by *burgage-tenure*; that is to say, they had the right to be paid for it, whether it was executed by them or not.

The late Mr Paton of Selkirk, who died at an advanced age—not much, if at all, before 1885—had this right, and was probably one of the last holders of it.

Edwardley. Communicated by MR GEORGE WATSON,
Curator of Jedburgh Museum.

IN the year 1093 Malcolm III., king of Scotland, greatly incensed against king Rufus, entered England at the head of a large army. With him went two of his sons, the Princes Edward and Edgar. Commencing to lay waste Northumberland, he besieged Alnwick Castle, the garrison of which was reduced to extremity. But we need not here repeat the story of the treacherous act—so familiar to every reader of Scottish history—which deprived the besieging army of its leader, and Scotland of its king. His son Edward, “bayth plesand and preclair,”* strove vainly to avert the inevitable defeat, but he was severely wounded in the rout which ensued. Forced to leave the field of battle, Scotland’s uncrowned king, probably accompanied by a few faithful followers, held his course due north-west, and on November 15th, the third day from the disaster on the banks of the Alne, reached Jedburgh Forest, in the shades of which he succumbed to the effects of his wounds. “He died,” says Fordun, “at Edwardisle, in the forest of Jedwart.”†

* Metrical Chronicle of Scotland.

† “Qui XVII. Kalendas Decembris prænotata tertia die post patrem apud Edwardisle foresta de Jedwart fatis cessit,”—Skene’s Fordun.

Meanwhile Prince Edgar returned to his royal mother, and upon him lay the obligation of breaking to her the information of the sad disaster. The saintly Margaret did not long survive the shock caused by the news of the death of both her husband and son, but died a few days afterwards. She was buried in Dunfermline Abbey. Thither was brought the corpse of Prince Edward, in order to be interred in the same place. Here also were entombed the remains of Edmond, Ethelred, King Edgar, Alexander I., and David I.—all brothers of Prince Edward. In this place King Malcolm's body, which had been picked up on the field of battle at Alnwick by two peasants, and conveyed in a common cart to Tynemouth, where it found a resting place for fully three half centuries, afterwards found a place of sepulture. An old chronicler states that the remains of Prince Edward, who, this historian supposes, was buried with his father at Tynemouth, were also removed at the same time; but this statement is void of support.

Can the locality where Prince Edward died be other than the place now known as Long Edwardley, near Jedburgh? We think not. Long Edwardley is the name of a field immediately behind Allarton House, on the boundaries of that old Border town. When John Ainslie, the eminent geographer, made his plan of Jedburgh about 1771, it was then part of the lands of Hyndhousefield. "Edwardisle," according to Fordun, was the place where Prince Edward departed this life, and is described by that writer as being in the Forest of Jedburgh. The name signifies the Lea or Ley, *i.e.*, The Meadow, of Edward, and doubtless was so named on account of Prince Edward having died there. Ridpath, in his *Border History*,* unfortunately splits it into two words, and renders it "Eadward-Isle," thus separating the genitive termination from the parent word, and so converting its meaning. Being situated to the south-east of the town, it is thus in a direct line with Alnwick, which therefore makes it all the more probable that Long Edwardley is the place in question.

* P. 49, n.

Doubtless the Prince expected to find at Jedburgh a sanctuary in its church or refuge in its castle. That saintly monarch, David I., had such a reverence for the memory of his brother Edward, that he visited the place where that Prince had drawn his last breath, and, having assigned boundaries to it, handed it over to the charge of the Canons of Jedburgh Abbey.* This was some time before the death of his son, Prince Henry, which took place in the year 1152. In the Charter granted by William the Lion in 1165 to the same Canons, to whom he confirms the grant, it is there termed "Eadwardesle."† The grant of this place to these Canons is also to be found in the Charters of Robert the Bruce. As the result of the Reformation, the Abbey was robbed of the lands which so long had been her property and support. The Barony of Ulston, which belonged to the monks, and in which the lands of Hyndhousefield were situated,‡ was then divided amongst several proprietors.¶ Nevertheless, we find both the barony of Ulston and the lands of Hyndhousefield indissolubly mentioned in several charters given under the Great Seal at the commencement of the 17th century. As before stated, there appears on Ainslie's Plan of Jedburgh, which was drawn about the year 1771, the name Long Edwardley, applied to a field in the lands of Hyndhousefield.§ It may at first seem that the prefix "Lóng" is an objection to the theory of these places being one and the same, but on reference to the deeds of this property it is seen in one dated 1741, which is the oldest of the set, that it was then termed "Edwardslee." The addition of "Long" must

* *Et Edwardisley, sicut eam meus pater perambulavit et divisas monstravit.*—Charter of Prince Henry to the Canons of Jedburgh Abbey printed in Morton's "Monastic Annals," p. 50, and Watson's "Jedburgh Abbey," p. 159.

† *Et Eadwardisley, sicut ego eam perambulavi et divisas monstravi.*—Foundation Charter of Jedburgh Abbey, by David I.

‡ Watson's "Jedburgh Abbey," p. 160; Morton's "Mon. Annals," p. 56.

§ "Inquisitorium Rotulorum Abbreviatio," Vol. II.

|| Jeffrey, "Hist. of Roxburghshire," Vol. II., p. 373.

§ Plan in Jedburgh Museum.

therefore have been made between 1741 and 1771, and its use, as may be seen in the deeds, has been maintained ever since. Why the appendage to Edwardley was made is not our task to trace, sufficient is it for us to point out that while the name of the adjoining town has, on account of the frequency of its usage, gone through nearly one hundred different modes of spelling,* Edwardley, now Long Edwardley, having been much less frequently used, has seen far fewer fluctuations in orthography, and, unless for the perhaps unnecessary appendage "Long," it has practically the same arrangement of letters as it had eight hundred years ago.

* *Origines Parochiales Scotiæ*

Visit of the Right Hon. Francis North, Lord Keeper Guilford, to Seaton Delaval, towards the end of the Seventeenth Century.

Members of the Club who read the following reprint will be grateful to Sir Edward Ridley for calling the Editor's attention to it in a letter of Dec. 16th 1900, in which he says:—

"I observe in reading the notice of the Club's visit to Seaton Delaval, which appears in the lately issued volume, that the writer has (probably) not had his attention called to—"The Lives of the Norths," Vol. 1., paragraphs 202, 203, which contain an account of Lord Keeper Guilford's (then Lord Chief Justice) visit to Delaval when 'riding' the Northern Circuit. This took place about 1680; certainly between 1675 and 1683, and is perhaps of some interest, as it states how Sir Ralph Delaval entertained the Judge to dinner, and to discourse about his harbour and his salt and coals."

FROM Tynemouth his lordship, by invitation, went to dine at Seaton Delaval. Sir Ralph Delaval* entertained us exceeding well; and not so much with eating and drinking, which appertains properly to the brute, and not to the man, but with very ingenious discourse, and showing to us many curiosities, of which he himself was author, in that place. The chief remarkable, there, was a little port, which that gentleman, with great contrivance, and after many disappointments, made for securing small craft that carried out his salt and coal; and he had been encouraged in it by King Charles the Second, who made him collector and surveyor of his own port, and no officer to intermeddle there. It stands at the mouth of a rill (as it is called) of water, which,

* Created a Baronet by Charles II., in 1660. The baronetcy became extinct in the eighteenth century.

running from the hills, had excavated a great hollow, in the fall, as it ran. The ground at the sea is a hard impenetrable flat rock; and, for cover of the vessels, which else, in the rage, must be dashed to pieces, Sir Ralph had built, or rather often re-built, a pier of stone that fended off the surge to the north-east, and, at high water, gave entrance near a little promontory of the shore turning in by the north; and, at low water, the vessels lay dry upon the rock. This had been built of square stone with and without cement; but all was heaved away with the surge; and for a great while nothing could be found strong enough to hold against the lifting and sucking of the water. At length Sir Ralph, at an immense cost, bound every joint of the stone, not only laterally but upright, with dovetails of heart of oak let into the stone; and that held effectually: for if the stones were lifted up they fell in their places again. This little harbour was apt to silt up with the sea sand; for remedying of which he used the back water of his rill and that kept the channel always open; and for that end he had an easy and sure device; which was sluice-gates built across the channel of the rill which, during tide of flood, were shut and so the water gathered to a great head above till low water; and then the sluices opened let the gathered water come down all at once, which scoured away the sand that every tide lodged upon the rock, and washed it as clean as a marble table. All this we saw, with his salt pans at work about it, and the petit magazines of a marine trade upon the wharf: and so he reaped the fruits of his great cost and invention; and if in the whole the profit did not answer the account, the pleasure of designing and executing, which is the most exquisite of any, did it.

I must not omit one passage which showed the steady constancy of that gentleman's mind; which was that, at the beginning of dinner, a servant brought him a letter, wherein was an account of a bag of water which was broke in his greatest colliery. Upon which, folding up the letter, said he, "My lord, here I have advice sent me of a loss, in a colliery, which I cannot estimate at less than £7,000; and now you shall see if I alter my countenance or behaviour from what you have seen of me

already." And so fell to discoursing of these bags of water and the methods to clear them, as if the case had been another's and not his own. He said his only apprehension was that the water might come from the sea; and "then" said he "the whole colliery is utterly lost: else, with charge, it will be recovered." Whereupon he sent for a bottle of the water, and finding it not saline as from the sea was well satisfied. Afterwards we enquired if the water was conquered, and we were told it proved not so bad as he expected. For it seems that although £1,700 was spent upon engines, and they could not sink it an inch, yet, £600 more emptied it; so that it had no more than the ordinary springs; and, in about six weeks, he raised coal again. He said that chain pumps were the best engines, for they draw constant and even; but they can have but two stories of them, the second being with an axle-tree of seven or eight fathom; and the deepest story is wrought by buckets and a wheel and ropes with the force at the top.

[From the "Lives of the Norths," by Dr Jessop, Vol. I., Sections 202, 203.]

Crows: A Country Rhyme. Communicated by JAMES
SMAIL, Edinburgh.

LATE and early flee the crows:
On the wing as morning daws,
Ceasing only in their flight
When the gloamin' meets the night.
Watchers o' the earth and sky,
Coming changes they descry:
Every watchfu' shepherd knows
His best weatherglass the crows.

When at morn they seek the shore
Landward storms will rage and roar;
When they seek the lily lee
Fair and lown the day will be;
When they roost in upland heather
Steady is the summer weather;
When they search the wheatland vast
Worm and weevil perish fast;
When on stubble close they gather
Wi' the morn comes nippy weather;
When they skim the muirs in snaw
Frost will soon gie way to thaw;
When in crowd they skyward soar,
Wheel and sail in great uproar,
Jerrin', cheerin' without stint,
They but haud their parliament,
And uphaud their ancient laws:
Steadfast is the *House o' Crows*.

Reference to Plan of Alnwick Castle.

(PLATE XV.)

The *Black* lines on the plan represent what was built before A.D. 1750, of which the greater portion (List I.) is still existing, and another portion (List II.) is now non-existent, or else, in a few cases, completely altered.

The *Red* lines represent what has been built since A.D. 1750, principally by the first Duke of Northumberland.

List I.—Before 1750, still existing. (Coloured Black.)

- Ab. The Abbot's Tower.
- Au. The Auditor's Tower; also sometimes called the "Caterer's" Tower, and the "Chancellor's" Tower. [Tate's Alnwick, Vol. I., pages 386 and 85.]
- Av. The Avener's Tower.
- B. The Barbican, with portcullis and gate-house.
- C. The Constable's Tower.
- M. The Middle Gate House.
- N. The Norman Gateway; leading into the Keep.
- P. The Postern Tower; now a Museum for British and Roman antiquities.
- W. The Water Tower. "Anciently a *corner* or *ravine* tower, but called in modern times the *Water Tower*, from the circumstance of the tank that acts as a reservoir for the Castle having been placed in it. It now (1866) contains the *clock*, which has two faces and five sonorous bells." [Tate, footnote, I. 386.]
- g. The Western Garret.

List II.—Before 1750, completely altered, or non-existent. (Black.)

- Ar. Site of the razed Armourer's Tower, which, together with the adjoining curtain wall on each side of it, and the Falconer's Tower, was razed in the time of the 1st Duke, and replaced by the new Tower at F and wall from F to K.

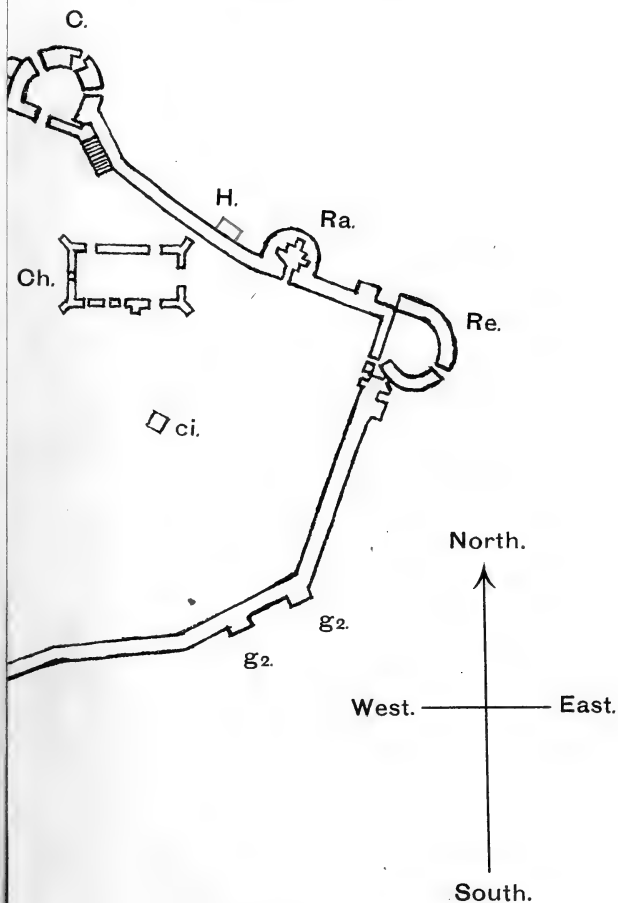
- Ch. The Chapel, within the Inner Bailey; removed by the 1st Duke in 1755.
- Ci. The site of the old cistern, fed by a conduit from the "Howling Fields."
- F. The approximate site of the razed Falconer's Tower.
- Q. The "Checker House," removed by the 1st Duke.
- Ra. Site of a former "Ravine Tower," now filled up by a length of walling. [Tate I., 255 and 374.]
- Re. The site of an ancient tower, called the "Gardener's" [Clarkeson's Survey, A.D. 1567], and shown in a plan of A.D. 1650 [Tate I., 97]. Upon this site was built by the 1st Duke the "Record Tower," in which Duke Algernon placed his Museum of Egyptian antiquities; and the present tower is the result of further remodelling in more recent years.
- S.S. Here formerly were stables, demolished by the 1st Duke, their place being taken by the buildings surrounding two sides of the new large quadrangular area, shown in red between Av. and D. [Tate I., 386.]
- g₂ g₂ were formerly two little garrets, mentioned by Clarkeson [A.D. 1567]; now only one, rebuilt, which may be called the East Garret.

List III.—More recent than 1750. (Coloured Red.)

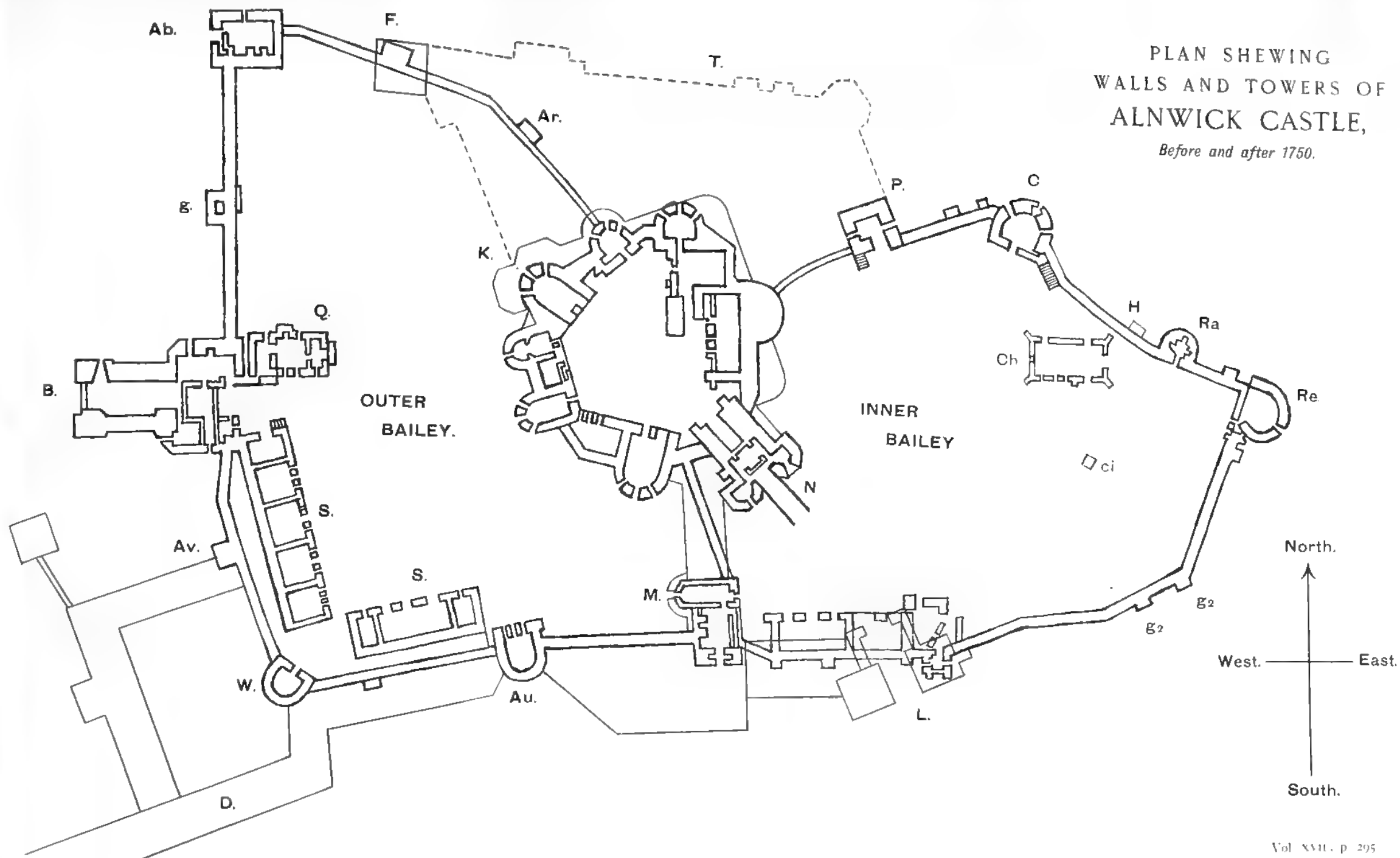
- D. A large reception hall, also used as a coach-house.
- F. A square tower at the end of the shortened curtain wall, standing nearly on the site of the old Falconer's Tower.
- H. A turreted projection upon the wall, built by the 1st Duke, now called Hotspur's Chair. [Tate I., 386].
- K. The Prudhoe Tower, built by the 4th Duke; begun in 1854.
- L. "The new Lion Gate-House, through which lies the road to the Castle Gardens or Barneyside" [Tate I., 386], (occupying the site of old buildings, demolished.)
- T. The modern Terrace Wall, crowning the slope which faces the river.

PLAN SHEWING WALLS AND TOWERS OF ALNWICK CASTLE,

Before and after 1750.



PLAN SHEWING
WALLS AND TOWERS OF
ALNWICK CASTLE,
Before and after 1750.



Note on the Beluga.

WHILE Mr G. G. Butler, the Editing Secretary of the Club, was coming down the river St. Lawrence from Quebec in the autumn of 1900, he observed from the deck of the steamer some gleaming white objects in the blue water, which at a distance he mistook successively for masses of ice, and for white buoys for mooring yachts; but their appearance and disappearance, and the machine-like smoothness of their movement as they rotated slowly above the surface, forbade either supposition; and on asking a French Canadian seaman, he was informed that they were "Marsouins," (porpoises.) Their brilliantly pure white hide marked them as being no ordinary porpoise. On communicating with Captain Norman of Berwick, he received this reply: "I find that your white porpoise must evidently be *Beluga Leucas*, one of the dolphin family, closely related to the Narwhal, 12 to 16 feet long, and cream-white. These white whales feed on fishes, which they follow far up the St. Lawrence and other rivers."

An excellent Plate is shown of this mammal in the volume of Jardine's Natural History, upon Whales, (Edinburgh, 1837, p. 204, Plate XV.), where the account given of it agrees with that of Captain Norman. "They are not at all shy," it is there stated, "but often follow the ships, and tumble about the boats in herds of thirty or forty; bespangling the surface with their splendid whiteness."

"The original drawing for the Plate was taken by Mr Syme, from an individual which for nearly three months was observed to inhabit the Firth of Forth, passing upwards almost every day with the tide, and returning with the ebbing of the waters. During this time it was generally known under the name of the White Whale, and was supposed frequently to be in pursuit of salmon. Many fruitless attempts were made to secure it; but at length it was killed by the salmon-fishers, by means of spears and fire-arms. It was purchased by Mr Bald of Alloa, and transmitted by him to Professor Jameson, and is now (1837) in the Royal Museum at Edinburgh,"

Note on the Sleep of Birds. By G. G. BUTLER.

ON the morning of December 21st 1900, just before dawn, after the disastrous gale of the 20th (which occurred on the night following the Club's Anniversary Meeting) the keeper at Ewart Park was walking through the pine wood known as the "Wilderness," which lost much fine timber in the gale, and just as he passed a large prostrate Scotch fir, he startled a Cushat from its sleep; out of the top branches, which were now close to the ground, the bird flew with its usual clatter of wings, and made off. There seems to be little doubt that the Cushat must have gone to rest before the storm of the night, have slumbered through the tossing caused by the gale, through the short period while the tree was falling, and, with its claws still firmly clasped on the branch, have slept soundly in its new position until awakened by the passing keeper.

*Unveiling of Memorial Window to the late Dr James
Hardy in Coldingham Parish Church.*

Tribute of the Berwickshire Naturalists' Club.

THE members of the Berwickshire Naturalists' Club have paid an appropriate tribute to the memory of their late Secretary, James Hardy, Esq., LL.D., by placing a window of stained glass and a brass tablet in the east wall of Coldingham Church. Many there are who will be remembered in stained glass windows and memorial tablets—and in that form only. Not so, we think, will it be with Dr Hardy. Dr Hardy's true memorial will be found in the influence that he left behind, which, to those who knew him—and to others through them—will be a sweet savour of good things.

The ceremony of unveiling and dedicating the Memorial took place on Tuesday afternoon, the 26th of June, and among those present were:—Mr A. H. Evans, Cambridge, President; Mr Bolam, Berwick, Treasurer; Colonel Milne Home, Caldra, Duns, Organizing Secretary, and Mrs Milne Home; Mr Butler, Ewart Park, Wooler, Editing Secretary, and Mrs Butler; Mr Boyd, Faldonside; the Misses Buchan, Coldingham; Mr Fitzroy Bell, Temple Hall; Mrs Caverhill and Mr J. Caverhill, Hillend; Mrs Carr, Wooler; Miss Clark; Mr Dudgeon, Northfield; Miss Duncan, Copeland; Mr and Mrs Duncan, Coldingham; Mr, Mrs, and the Misses Davidson (2), Hill House; Mr and Mrs Edington and Miss

Thorburn, Lumsdaine; Mr John Ferguson, F.S.A. (Scot.), the Hermitage, Duns; Miss Fender, Law House; Mr and Mrs Gunn, Berwick; Mr Wm. Hardy, Harpertown; Rev. H. M. Lamont, Coldingham; Mr Lindores; Mr James S. Mack, Coveyheugh; Mr Joseph Mack, Berrybank; the Misses Munro (2); Mr Macvie; Rev. T. Marjoribanks, Houndwood; the Misses Mair (2), Bunkle Manse; Dr Macdougall, Coldingham; Rev. David Paul, LL.D., Edinburgh; Mr J. Robertson, Coldingham; Rev. Evan Rutter, Spittal; Mrs Rule; Dr Stuart, Chirnside; Mr James Somervail, Broomdykes; Miss J. Thorburn, Burnhall; Mr Joseph Wilson, Duns; Mrs Wright, Ecclaw; Mrs Wood, Galashiels.

Apologies for absence were received from Colonel Hope of Cowdenknowes; the Rev. J. J. M. L. Aitken, Established Church, Ayton; Captain Norman, R.N., Berwick; Captain Carr Ellison, Hedgeley; and Mr J. Smail, 7 Bruntsfield Crescent, Edinburgh.

The preliminary portion of the service was conducted by the Rev. H. M. Lamont, who, after engaging in prayer, read Isaiah, chapter 54, from the 11th verse. Then followed the singing of the prose psalm 84, reading Revelation, chapter 7, from 9th verse, and the singing of hymn 308, "Still on the homeward journey."

The Rev. Dr. Paul preached from Psalm 119, verse 18:—"Open Thou mine eyes that I may behold wondrous things out of Thy law." It was, he said, the prayer of one whose interest and study were the law of God. It was the prayer of one who was seeking for light in the interpretation of that law. He had been attempting to understand it, and had become convinced that he needed divine illumination.

Having pointed out that the scientific study of Nature was almost dissociated from the thought of God, and that it was possible to be deeply versed in the wonders of creation without being led thereby to praise God, Dr Paul said:—Now, what we recognise in James Hardy, in connection with whose memory we are assembled here to-day, is, that he was a reverent, devout student of Nature, who did not set the Deity aside as an unnecessary, or merely hypothetical factor in creation, but in whose view the works of Nature—which he loved and studied all his life—were the works of God. If

it were otherwise, it would not be fitting that our meeting to-day should be in a Christian sanctuary, still less would it be appropriate that a window in this ancient House of God, which for centuries has been redolent of Christian worship, should bear his name, and hand down his memory to unborn generations. The motto on the window is one of the imperishable utterances of the Great Founder of the Christian religion, and the line from our English poet is chosen to indicate the attitude which the Club believed Dr Hardy to hold in regard to the relation of Nature to the Creator. It is this attitude of his, taken in connection with the whole work of his life, that justifies us in holding this public service, and dedicating a stained window in memory of him within this church.

It would not be sufficient justification for our action here to say that Dr Hardy was Secretary to the Berwickshire Naturalists' Club for 27 years, and that he discharged his duties in that capacity with conspicuous ability and faithfulness. That might and would be a reason for honouring his memory in other ways, but not in this particular way. Every member of the Club recognises that his services were worthy of the most grateful recognition that we can yield to them. The interests of the Club were, as we know, very dear to him, and its prosperity a matter of anxious concern to him. He spared himself no trouble or labour to ensure that its work should be successfully carried on from year to year. The numerous details connected with every meeting received his careful attention. He had to visit localities beforehand for the purpose of drawing up a definite programme. He had to write many letters in connection with each. He had to obtain permission for the Club to enter private grounds. He had to fix hours and arrange for conveyances, and, generally, to see that nothing was neglected which could contribute to the success of the meetings; and we know how perfectly everything was arranged. Everything was left to him, and he did not omit the smallest duty. He was the mainspring of the Club's action. Presidents come and go, but the Secretary is the permanent official on whom the life and vigour of the Club depends. And it is pleasing for us to remember

that twice during his lifetime we gave substantial testimony to our appreciation of his services, as it is a satisfaction to us to meet here to-day, and in this last public act to perpetuate his memory. But if the fact that he was so faithful a servant to the Club as its Secretary would not altogether justify the particular form which our recognition takes to-day, neither would the fact that he was a distinguished student of Nature, though his ability and success in that line of study were quite exceptional. To study was the work of his life, and he applied himself to it with a zeal and industry which never flagged. Up to the very end his interest in it was unabated. It was not one branch of the natural science that he pursued, but many.

One has only to glance over the list of his contributions to the Club's Proceedings to see how varied and manifold were the subjects which he studied. Flowering plants, mosses, lichens, birds, butterflies, beetles, spiders, do not exhaust the list. And in connection with all of them he made interesting discoveries, and by his observations added new species to those already recorded. And everything relating to the antiquities of the Borders had a special charm for him. He was an authority in Border genealogy; the history of every castle and keep was known to him; he was familiar with the legends and traditions of every district; nothing came amiss to him that touched Border life—either in the present or in the past—from the stone age to the present day. And his accumulating stores of knowledge he utilised for the benefit of the Club. Year by year, from 1839 downwards for nearly sixty years, he enriched our Proceedings by valuable papers—botanical, ornithological, entomological, antiquarian. Almost all his work was done in connection with the Club, to whose Proceedings he contributed no fewer than 264 papers or notices.

His industry was prodigious. He would copy not only long papers, but whole books verbatim. Even his correspondence was phenomenal, for he never wrote a short letter, but entered minutely into every subject he was consulted on. He must have been observing and recording his observations,

studying and writing all through his life. It is easy to say that during the greater part of his life he had nothing else to do. But, as a rule, it is just those people who have abundance of leisure time who accomplish least. The fact that he was not compelled to do the work he did adds to his credit. He was a born student, and he had disciplined himself in his younger days to resist the calls of idleness, until work became a positive pleasure to him. And, as a Club, we reaped the benefit; indeed, this whole Border district lies under a heavy debt of obligation to him. One can only regret that he did not gather up his store of observation into one or two complete books, and that so much knowledge has died with him of which he alone possessed the key. Few of us have known anyone with a mind more many-sided and accurate. And his reputation was not confined within the limits of the Club. He had scientific correspondents in all parts of the kingdom, and mainly through him our Club was widely known. It was gratifying to us, as it would be to himself, when the University of Edinburgh, his own University, crowned his work by bestowing upon him the honorary degree of Doctor of Laws.

While it is natural and proper, therefore, that his memory should be preserved and honoured among us, on account of his scientific attainments and his services to the Club, we claim for him something more as a justification of our presence here to-day for the purpose of unveiling in this church a window that will bear his name. We claim for him not only that he was a man of science, but a Christian man of science. The light in which he viewed the outward Nature was partly an inheritance of his birth, and was partly furnished by his own reflection. Born in a family of the Secession Church, with a father who was an elder in that Communion, he would be imbued from his childhood with the idea of God as the Creator and Governor of this world. And when in after life he studied the facts and processes of Nature for himself, he found no reason to abandon the faith of his youth. A man so well informed, and with so penetrating an intelligence, could not be blind to the difficulties that present themselves to the Christian man of

science; but, with all the enlightened and liberal views which such a man could not fail to hold, we are assured by those who knew him best that he regarded Nature as part of God's great revelation to man, to be studied with all the reverence that befits the creature exploring the works of the Creator. With a modesty and a reticence which belonged to him partly as a characteristic of his Scottish countrymen, and partly as peculiar to himself, he did not bring his theistic and Christian views of Nature into the foreground; but none the less did they permeate all his thinking, and all his work.

As has been well said of him already by one who knew him well:—In the great verities of the Christian revelation he was a convinced believer on independent grounds, and he was content to wait with confidence until fuller light should dispel the apparent contradictions between the manifestations of the Divine in external Nature and in man's history. He was free from the common conceit of believing that the two things which we have not yet found a method of reconciling are therefore irreconcilable. He discerned the finger of God both in Nature and in Revelation, and he approached each of them in the spirit of the Psalmist's prayer:—"Open thou mine eyes that I may behold the wondrous things out of Thy law." That a window then, in this ancient house of prayer, should be erected to his memory, and called by his name, is not only excusable; it is appropriate and befitting. Gratefully placed here by the Berwickshire Naturalists' Club, and willingly accepted by those who have the charge of this building, we trust it may stand here for many generations as a memorial both of the man and of his work. Glory be to the Father, and and to the Son, and to the Holy Ghost, as it was in the beginning, is now and ever shall be, world without end. Amen.

The Rev. H. M. Lamont said their purpose was to unveil a window in stained glass to the memory of the late Dr James Hardy, which had been given by the members of the Berwickshire Naturalists' Club, with which he was so long and intimately connected. It had been with very great willingness and gratitude received by the heritors of

the parish, and by the minister and elders of the congregation. He then asked the President of the Club to unveil the window.

Mr A. H. Evans, before unveiling the window, said:—I feel it to be the greatest privilege to be permitted to unveil this monument to Dr Hardy, the old friend of so many of us assembled here to-day—as well as of many who greatly regret their absence—and the kindly and energetic Secretary of the Club, as we have just been reminded, for so long a period.

Having spoken these words, Mr Evans withdrew the canvas covering, and exposed fully to view the beautiful window, which represents Christ preaching and drawing lessons from the lilies of the field. At the top are the words, "The earth is full of Thy riches"; and at the foot, "Consider the lilies of the field." Below the window is a brass tablet on which is inscribed:—"Through Nature up to Nature's God. This window is placed here by the Berwickshire Naturalists' Club in loving memory of James Hardy of Old Cambus, who was for 27 years Secretary of the Club, and whose remains lie in the adjoining churchyard. Obiit, 30th June 1898." The first sentence is in red lettering, and the remainder in black, and there are red lines round the tablet crossed at the angles.

The window, which is of very chaste design, was supplied along with the tablet by Mr Baguley, Newcastle-on-Tyne.

After a short prayer from the Rev. H. M. Lamont, Miss Dickson, the organist of the church, sang with fine effect, "Consider the Lilies," her accompaniment being played by Mrs Caverhill.

After the congregation had sung hymn 206, "Blest be the tie that binds," the proceedings were closed with the Benediction, pronounced by the Rev. Dr Paul.

OBITUARY NOTICE.

Lady John Scott Spottiswoode. By MISS WARRENDER.

By the death, last March, of Lady John Scott Spottiswoode of Spottiswoode, the Berwickshire Naturalists' Club has lost not only one of its oldest and most venerated members, but a link with a past of which in her own county she was the last survivor. Born on Midsummer's Day, 1810, she had known those who had been face to face with the '45; she remembered well the wild excitement caused by the victory of Waterloo, and she had talked with Sir Walter Scott.

On both sides she came of a loyal and ancient stock. Spottiswoode of Spottiswoode is among the oldest territorial families of Berwickshire, and to her last day Lady John never forgave the ancestor who had affixed his seal to the Ragman Roll; while her mother's family, Wauchope of Niddrie, is the oldest family in Mid-Lothian. Thus the intense love for her own country, and especially for the Borderland, with its legends and ballads, which was so great in Lady John, seems almost to be her natural heritage.

Most of her childhood and all its happiest days were spent at Spottiswoode, which she loved passionately. The periodical journeys to London, made in leisurely fashion in the ponderous family coach, were looked on as seasons of exile; and she was never so happy as when wandering over the moors, or fishing in the burns of Lammermuir,

Her marriage, in 1836, to Lord John Scott did not take her far away, for though some part of each year was spent at Cawston, his Warwickshire property, they always had a home within sight of the Cheviots; Cowdenknowes, Newton Don, Stichill, or Kirkbank. From the latter they explored all the nooks and corners of the hills. No one knew so well every camp, standing-stone, or ancient drove road. The things of the past were of absorbing interest to her from her earliest childhood. From the papers in the old charter-chest to the scraps of songs and traditions which she picked up in the cottages, nothing came amiss, and her wonderful memory preserved them all. In addition to that natural intuition which marks the true antiquarian, her historical and technical knowledge made it very difficult to deceive her, whether the object in question was a flint arrow-head, a bronze implement, or a would-be ancient ballad. To the last she retained her keen interest in archæology, and when over eighty would spend hours, regardless of wind and rain, watching the excavation of what might prove to be a pre-historic burial place. Hardly a likely-looking knowe on Spottiswoode was left unexplored, and the valuable museum, which years of patient labour had collected in the Eagle Hall, shows the thoroughness of her researches.

She was an extremely good botanist, and had a better knowledge of mineralogy than most people, tastes which she owed to her father's early training. No one was better acquainted with the habitats of rare plants, and no one took more pains to protect them from ruthless spoliation. She always preferred to see flowers growing in their natural surroundings, than to gather or transplant them; and though her neighbours may have smiled at the railed enclosure which she placed round the only known habitat in Berwickshire of the *Osmunda regalis*, it was her sole means of protecting that rare fern, and a practical expression of her opinions.

Lord John died in 1860, Mr Spottiswoode in 1866, and Mrs Spottiswoode in 1870; and as her two brothers had already predeceased her, Lady John found herself on her mother's death tenant for life of Spottiswoode, and from

that time she rarely left it, except for her periodical visits to Cawston, and her yearly stay in the far north, the one holiday in the year that she allowed herself. Her life at Spottiswoode was a busy one; as in addition to two farms in her own hands, and the planting and thinning of many acres of woodland, the welfare of her poorer neighbours was her incessant care. Besides constant visits to her own dependants, she went through all the cottages on every farm on the estate, twice a year; and there was not a sick or poor person in the whole countryside who had not occasion to bless her open-handed generosity. By no one will she be more missed than by the poor. They will remember the charity that never turned a deaf ear to their wants, and the warm heart that felt so keenly for their joys and sorrows. To her own friends and relations her loss means the quenching of a strong personality, which to the last retained all the fascination of brilliant wit, of originality rising to genius, and of the deepest and most enduring family affection. By the outside world she will be best remembered as one of the last of the "sweet singers of Scotland." "Annie Laurie," her best-known song, was written about 1835, but all her life long her feelings found their strongest expression in music and verse.

Lady John will not easily be forgotten, but the best memorial that later generations can dedicate to her memory is the following of her example in the love of the past, in the care for old customs and traditions, and in a reverence for the landmarks of bygone days.

OBITUARY NOTICE.

Mrs George Grey Butler. By WATSON ASKEW-ROBERTSON,
Esq., Pallinsburn.

ON April 30th 1901, in Doddington Churchyard, a highly valued Honorary Member of this Club was laid to rest, to the inexpressible grief of her husband and children, and to the deep sorrow of a wide circle of friends, in every rank of life.

Mrs G. G. Butler of Ewart Park, a countess of the Holy Roman Empire, was descended from an ancestry, on both sides, that for many long years had played an important part in history.

Her great grandfather, Count St. Paul, served as an officer with great distinction in the Austrian army, during the seven years war, and for his services was created a Count of the Holy Roman Empire—a title transmitted to his great grand-daughter.

Her grand-father, Sir Horace St. Paul, a colonel in the army and M.P. for Bridport, and her uncle, Henry St. Paul, M.P. for Berwick, both sat many years in Parliament; and

when early in the last century this country was threatened with an invasion by France, they with their brother, Major Charles Maximilian St. Paul (long the popular and well-known master of the Galewood Hounds) were the means of raising the Cheviot Legion, of which Count St. Paul was colonel, a body of cavalry, that only wanted the opportunity to show that valour and courage, which for centuries has distinguished our borderers, and which our own yeomanry have proved in South Africa exists to-day in undiminished lustre.

Her father, the late Sir Horace St. Paul, was for upwards of 50 years possessor of Ewart, and for some time Member of Parliament for East Worcestershire, where he had large estates. For many years he was a very well-known character in Northumberland, and by those honoured with his friendship was highly appreciated for his kindness and gentlemanly bearing, his desire to make those about him happy and prosperous, and for those great intellectual gifts which made him a most interesting companion. In early life he had seen the evil which arose from excessive drinking, too common in those days, in the upper as well as in the lower classes of society, and he became, when a comparatively young man, a strong advocate of the temperance movement, and gave very practical evidence of his belief in the soundness of his views and sentiments, though always tolerant and courteous to those who differed from him on this great question.

On her mother's side Mrs Butler was descended from one of our very oldest Northumbrian houses. The lineage of the Greys goes back into days that it is difficult to trace; but through the mist of years, and across the fading centuries, that house has ever produced sons and daughters worthy of their progenitors, and adding, as years roll on, new names that bring honour and renown to the family tree. From the middle of the last century, for many years, few names were better known in Northumberland than those of John Grey of Dilston, and George Annett Grey of Milfield, the grandfather and father of the lady whose decease we so greatly lament.

When quite a child Mrs Butler was deprived by death of a mother's care and training, and for ten years, till

her father was taken away from her, she was his constant and inseparable companion. Very early in life she displayed considerable literary ability, and when quite a child amused herself by writing some books, that not only showed great talent and imagination, but also contained a fund of knowledge it was difficult to realize that one so young, and leading so very quiet and retired a life, could acquire.

Her father, a great admirer of Shakespeare, fostered in her a love and reverence for that greatest of all masters of human nature, and she was a life-long student of his writings. After her marriage, when she came with her husband to reside at Ewart, she promoted the establishment of a club for Shakespeare readings, which met on certain days at the houses of the different ladies that composed it, and tended to make those immortal plays more widely known, and appreciated, than they had been before on Tillside.

In 1891, after a long illness, in which she nursed him most devotedly and tenderly, Sir Horace St. Paul died, and at the age of 23 she was left alone in the world; but after two years, she was fortunate enough to form a most happy marriage with her cousin, and for eight years few people have passed pleasanter or more useful lives. United to a husband of kindred literary tastes, blessed with healthy and clever children, surrounded by objects of art, and collections of every sort and kind that can create interest or charm the eye; possessing a most delightful home and beautiful surroundings, endowed with talents and tastes that enabled her to take a wide and intelligent interest in all local, as well as scientific matters, her life promised to be one of advantage to her neighbours, and a blessing to herself and family. But such was not to be. In the prime and flower of womanhood, just when a mother's care seemed most needed by her children, and a wife's help required by a husband, like her mother (seemingly too soon) she was called away, and her pure bright spirit passed into the presence of its Creator.

Her memory will long be cherished by her family and her intimate friends, by those resident on her estate, and those whom her kindness assisted,

In her the Berwickshire Naturalists' Club had a very ardent supporter, and one who not only welcomed them to her house, and displayed to them the treasures accumulated by her ancestors, but delighted especially in accompanying her husband to the meetings of the Club, and adding to her store of antiquarian lore and botanical and geological information, that she was never wearied of increasing.

“Bright be the place of thy soul,
No lovelier spirit than thine,
E'er burst from its mortal control
In the orbs of the blessed to shine.
On earth thou wert all but divine,
As thy soul shall immortally be;
And our sorrow may cease to repine,
When we know that thy God is with thee.”

“Light be the turf on thy tomb,
May its verdure like emerald be;
There should not be the shadow of gloom
In aught that reminds us of thee.
Young flowers and an evergreen tree
May spring from the spot of thy rest,
But nor cypress nor yew let us see,
For why should we mourn for the blest.”

OBITUARY NOTICE.

Major-General Sir William Crossman, K.C.M.G. By
SIR GEORGE B. DOUGLAS, BART., Springwood Park.

THERE is no doubt that it is socially, rather than scientifically, that Sir William Crossman—whose death, at the age of seventy, occurred in April 1901—will be remembered by the members of the Berwickshire Naturalists' Club. A naturalist in any strict sense of the word he certainly was not; for, supposing that he had once known them, he had forgotten during his long residence in China and Japan even the local names of common birds and plants. On the other hand, I have seldom known a man who had deeper or more unfeigned enjoyment of the beauties of natural scenery. The contrast of the sheltered wooded banks of Tweed or Teviot after the wind-swept links of Holy Island was in particular an unfailing source of pleasure to him. Among the subjects studied by the Club, his chief interest was in archæology—notably in such undertakings as the excavation of the Roman station of Aesica. The excavation of the monastic buildings at Holy Island was carried out under his personal superintendence, and occupied him much. But, indeed, everything connected with the history of his island-domain was his hobby, and at the time of the death of the first Lady Crossman, in 1898, he had even made some progress in compiling a History of Lindisfarne. Had he completed it, it would have been a work of conscientious research. But after his loss, he travelled for a year, and the MS. was then abandoned, and never I think resumed,

In connection with his large interest in the Tweed salmon-fisheries, Sir William took, also, a great interest in the natural history of the Salmon, devoting a good deal of time to the study of statistics relating to that mysterious creature, as he appears in various parts of the globe. But, in fact, almost any local subject of profitable enquiry was sure to command his interest and sympathy. His reading was wide—diffuse rather than scholarly; and his love of poetry almost equal to his love of natural scenery. Indeed, I have known him, on more than one occasion, to commit thoughts to writing in that form. All these things, however, occupied but a secondary place in his career, which had been primarily that of a man of action—one who at the time when I knew him might have said with Tennyson's Ulysses,

“Much have I seen and known; cities of men,
And manners, climates, councils, governments.”

Indeed, fond as he was of Tweedside and Northumberland, the love and desire of travel never left him. As I have said, it is as a man rather than a *savant* that he will be remembered by those who knew him. His entirely unassuming though dignified deportment was, in one of his distinguished services, singularly attractive. Whilst to those who had more than a passing acquaintance with him, the genuineness and transparency of his nature, his sense of duty—naturally strong and strengthened by his military training—and most of all the warmth and kindness of his heart must remain for ever as a cherished recollection. Sir William served as President of the Club for the year 1890.

Meteorological Record at Lilburn Tower for 1900.
 Communicated by EDWARD J. COLLINGWOOD, ESQ.

			Mean	Mean Height	
			Temperature.	of Barometer.	Rainfall.
			Degrees.	Ins.	Ins.
January	...	...	38·05	29·50	3·28
February	...	...	32·98	29·62	4·10
March	...	...	37·66	29·69	2·50
April	...	...	46·53	29·52	2·08
May	...	...	49·95	29·63	1·68
June	...	...	56·85	29·57	3·52
July	...	...	62·42	29·66	1·00
August	...	...	56·27	29·62	4·21
September	...	...	54·85	29·70	1·76
October	...	...	46·35	29·54	5·90
November	...	...	41·81	29·38	4·76
December	...	...	43·14	29·34	2·19

REMARKS.

Mean temperature for the year	...	47·246 degrees.
„ height of barometer for the year	...	29·564 inches.
Total Rainfall for the year	...	36·98 inches.

The reading of the barometer was taken every morning, and the mean for the month deducted therefrom.

The mean temperatures are deducted from the daily mean taken every morning from the readings of a maximum and minimum thermometer, in the shade.

Notes of Rainfall and Temperature at West Foulden and Rawburn during 1900. By JAMES HEWAT CRAW, for Dr Charles Stuart, Chirnside.

		WEST FOULDEN.				RAWBURN.			
		RAINFALL.		TEMPERATURE.		RAINFALL.		TEMPERATURE.	
		Ins.	100ths.	Max.	Min.	Ins.	100ths.	Max.	Min.
January	...	4	26	52	28	4	80	48	22
February	...	4	28	54	14	3	70	44	16
March	...	2	21	55	15	1	40	46	16
April	...	0	83	74	29	2	70	70	27
May	...	1	3	71	35	1	40	65	32
June	...	3	84	71	36	4	50	76	38
July	...	1	89	79	40	3	50	75	40
August	...	5	42	75	38	5	30	74	38
September	...	1	32	73	35	2	30	72	36
October	...	4	63	61	29	4	90	58	27
November	...	4	93	61	29	4	70	56	28
December	...	0	97	55	31	4	10	51	28
		35	61	79°	14°	43	30	76°	16°

NOTE.

West Foulden is six miles from sea at Berwick-on-Tweed; 250 feet above sea-level.

Rawburn is 24 miles from sea; 920 feet above sea-level.

*Donations to the Club from Scientific Societies, Exchanges,
etc., up to October 1901.*

- Andersonian Naturalists' Society, *Annals of*, Vol. II., Part 2.
- Anthropological Institute of Great Britain and Ireland, *Journal of*, Vol. XXIX. (New Series, Vol. II.), Nos. 3 and 4, November and December 1899.
- Antiquaries of Newcastle-upon-Tyne, Society of, *Proceedings*, Vol. IX., pp. 217-320. Index to Vol. IX., pp. 1-8, 25-58. *Proceedings*, Vol. X., pp. 1-16, 33-108. Parish Registers of Baptism, pp. 149-172. *Archæologia Æliana*, Part 55, Vol. XXII., Part 2. Part 56, Vol. XXIII., Part 1.
- Bath Natural History and Antiquarian Field Club, *Proceedings*, Vol. IX., No. 3, 1900.
- Belfast Naturalists' Field Club, *Annual Report*, Series 2, Vol. IV., Part 6, 1898-9.
- Boston, U.S.A. Boston Society of Natural History, *Memoirs*, Vol. V., Nos. 6 and 7. *Proceedings*, Vol. XXIX., Nos. 9-14, pp. 179-322. *Occasional Papers*, No. 4, Vol. I., Part 3. "Geology of the Boston Basin," by Wm. O. Crosby.
- Cornwall. Royal Institution of, *Journal*, Vol. XIV., Part 2, 1901.
- Croydon Microscopical and Natural History Club, *Proceedings and Transactions*, February 21st 1899 to January 16th 1900.
Do. February 20th 1900 to January 15th 1901.
- Dublin. Royal Dublin Society, *Scientific Transactions*, Vol. VII., Parts 2-7, June 1899 to January 1900. *Scientific Proceedings*, Vol. IX., Parts 1 and 2, October 1899 to March 1900. Index to *Scientific Proceedings and Transactions* 1877-1898; viz.:—*Proceedings*, Vols. I.-VIII. *Transactions*, Vols. I.-VI. *Economic Proceedings*, Vol. I., Parts 1 and 2.

- Edinburgh Geological Society, Transactions, Vol. VIII., Part 1.
- Glasgow, Natural History Society of, Transactions, Vol. v., Part 3, 1898-9.
- Manchester Literary and Philosophical Society, Memoirs and Proceedings, Vol. XLIV., Parts 4 and 5, 1899-1900; Vol. XLV., Parts 1 and 3, 1900-1901.
- Montgomeryshire. Collections Historical and Archæological, Vol. XXXI., No. 3., December 1900.
- Norfolk and Norwich Naturalists' Society, Transactions, Vol. VII., Parts 1 and 2, 1899-1901.
- Nova Scotian Institute of Science, Proceedings and Transactions, Vol. IX., Part 1; Vol. X., Part 2.
- Royal Physical Society, Proceedings, Session CXXIX., 1899-1900.
- St. Louis, U.S.A. Transactions of the Academy of Science of St. Louis, Vol. IX., Nos. 6, 8, 9, with title page, prefatory matter, and Index, January 1st to December 31st 1899; Vol. X., Nos. 1-8.
- Tufts College Studies, No. 6.
- Upsala University, Geological Institution of, Bulletin, Vol. v., Part 1, No. 9.
- U.S.A. Geological Survey. Bulletins, 150-176. Twentieth Annual Report, Parts 2, 3, 4, 5 (with maps), and 7. Monographs, Vol. XXXII., Part 2; Vol. XXXIII.; Vol. XXXIV.; Vol. XXXVI.—XL. Preliminary Report on the Cape Nome Gold Region—Alaska.
- Yorkshire Naturalists' Union, Transactions, Part 23.

General Statement of Account—December 1900.

INCOME.

	£	s.	d.	£	s.	d.
Balance due from Treasurer as per last account	4	2	0			
Arrears received during the year	15	7	0			
Entrance Fees	9	10	0			
Subscriptions	154	8	0			
Back Numbers of Proceedings Sold, etc.	4	7	0			
Balance brought from Hardy Memorial Fund	1	8	0			
Balance due to Treasurer	6	5	11			
				£195	8	11

EXPENDITURE.

Paid for Printing Proceedings, 1899	74	17	0			
Do. do. Bunkle Records, Part II.	55	10	6			
Engraving Plates, etc., for Proceedings, 1889	10	10	0			
Printing Circulars, Stationery, Postage, Carriages, etc.	38	11	6			
Account for Salmon	5	9	6			
Expenses of Meetings	7	0	5			
Berwick Museum, Rent of Room, etc.	3	10	0			
				£195	8	11

I certify the above Account to be correct,

THOS. DARLING,

30th December 1900,

Numerical List of Books in the Library. 30th March 1901. Communicated by the HON. TREASURER.

		Vols. or Parts.	Parts.
1	American Museum of Natural History Report, 1 vol.	1	1
2	Andersonian Naturalists' Society, Annals 1 vol.	1	2
3	Anthropological Institute of Great Britain and Ireland, 24 vols. ..	24	85
	Do. List of Fellows	1	1
4	Archæologia Æliana, 8 vols. ..	8	13
5	Antiquaries of Scotland, Society of, Proceedings, 20 vols.	20	20
6	Arkansas, Geographical Reconnaissance of, Report, 1	1	1
7	Australian Museum, Records, 3 vols.	3	22
	Do., Reports of Trustees, 6 Nos.	6	6
	Do., Catalogue of Birds, 3 vols.	3	3
	Do., Supplement, 1 vol.	1	1
8	Bath Natural History and Antiquarian Field Club, 8 vols.	8	26
	Do., Pamphlet, 1	1	1
9	Belfast Naturalists' Field Club, 4 vols.	4	22
	Do., Report, 1	1	1
10	Bodleian Library, Lists 3	3	3
11	British Association, Report, 4 vols. ..	4	4
	Do., Pamphlets, 2	2	2
12	Boston Society of Natural History, Journal, 4 vols.	4	11
	Do., Pamphlet, 1	1	1
	Do., Reports of Custodian, 5 Nos.	5	5
	Do., Proceedings, 27 vols. ..	27	80
	Do., Memoirs, 4 vols.	4	45
	Do., Occasional Papers, 7 vols. ..	7	9
Forward		140	365

		Vols. or Parts.	Parts.
	Brought forward	140	365
13	Cardiff Naturalists' Society, Report and Transactions, 23 vols.	23	31
	Do., Pamphlet, 1	1	1
14	Chicago Academy of Sciences, Proceedings, 1 vol.	1	1
15	Conchology, Journal of, Pamphlets, 2	2	2
16	Cornwall Royal Institution, Journal, 5 vols.	5	13
17	Croydon Microscopical and Natural History Society, Reports, 7	7	7
	Do., Proceedings and Transactions, 16 Nos.	16	16
	Do., Pamphlet, 1	1	1
18	Cumberland and Westmorland Association for the advancement of Literature and Science, Transactions, 12 Nos.	12	12
19	Dublin Royal Society, Scientific Transactions, 7 vols.	7	85
	Do., Scientific Proceedings, 9 vols.	9	56
	Do., Index	1	1
	Do., Economic Proceedings 1 vol.	1	2
20	Dumfriesshire and Galloway Natural History and Antiquarian Field Club, Transactions, etc., 11 Nos.	11	11
21	East of Scotland Union of Naturalists' Societies, Proceedings, 2 vols.	2	2
22	Edinburgh Botanical Society, Proceedings and Transactions, 8 vols.	8	18
	Do., Pamphlet, 1	1	1
23	Edinburgh Geographical Society, Transactions, 6 vols.	6	20
	Do., Pamphlets, 3	3	3
24	Edinburgh Royal Society, Proceedings, 12 vols.	12	16
	Do., Pamphlet, 1	1	1
	Forward	270	665

		Vols. or Parts.	Parts.
	Brought forward	270	665
25	Essex Institute, Proceedings, 2 vols.	2	10
	Do., Bulletin, 30 vols.	30	358
	Do., Pamphlets, 5	5	5
26	Essex Naturalist, Transactions, 4 vols.	4	10
	Do., Do., New series 7 vols.	7	84
	Do., Pamphlets, 2	2	2
27	Fishery Board for Scotland, Reports, 4 vols.	4	4
28	Geologists' Association, Proceedings, 15 vols.	15	126
	Do., Indexes, 2	2	2
	Do., Annual Reports, 11	11	11
	Do., Supplemental No. 1	1	1
	Do., Lists of Members, 4	4	4
29	Geological Society, Reprints from Quarterly Journal, 3	3	3
30	Geological and Polytechnic Society of the West Riding of Yorkshire, Report of Proceedings	1	1
31	Glasgow Geological Society, Trans- actions, 8 vols.	8	15
32	Glasgow Natural History Society, Pro- ceedings and Transactions, 4 vols.	4	10
	Do., New Series, 5 vols.	5	11
	Do., Index, 1	1	1
33	Glasgow Philosophical Society, Pro- ceedings, 22 vols.	22	27
	Do., Index, 1	1	1
	Do., Reprint, 1	1	1
34	Glasgow Society of Field Naturalists, Transactions, 4 parts	4	4
35	Harvard College Museum of Compa- rative Zoology, Reports	23	23
	Do., Bulletins	2	2
36	Hawick Archæological Society, Meetings, 14 Nos.	14	14
37	Hull Scientific and Field Naturalists' Club, Transactions, 1 vol.	1	1
	Forward	447	1396

		Vols. or Parts.	Parts.
	Brought Forward	447	1396
38	Indiana, Geographical Survey of, 1 Report, and 1 Map	2	2
39	Indian Meteorological Memoirs, 2 vols. Do., Table of Contents	2 1	9 1
40	Iowa, Geology of, 1 vol.	1	2
41	Leeds Philosophical and Literary Society, Annual Report, Nos. ..	23	23
42	Leeds Naturalists' Club and Scientific Association, Report 1	1	1
43	Liverpool Literary and Philosophical Society, Proceedings, 47 vols. ..	47	47
44	Manchester Literary and Philosophical Society, Proceedings, 15 vols. ..	15	15
	Do., Memoirs, 3rd Series, 7 vols.	7	7
	Do., do., 4th Series, 10 vols.	10	27
	Do., do., New Series, 5 vols.	5	20
	Do., Pamphlets	2	2
45	Manchester Microscopical Society, Transactions and Report	12	12
46	Meriden Scientific Association, Trans- actions, 1 vol.	1	1
47	Milwaukee Public Museum, Reports	2	2
48	Montgomeryshire, Collections Historical and Archæological, 24 vols. ..	24	66
	Do., Supplement	1	1
	Do., Index	1	1
49	The Naturalist, 60 Nos.	60	60
50	Nature, 8 Nos.	8	8
51	Newcastle-upon-Tyne Society of Anti- quaries, Proceedings, 1 vol. complete	1	32
	Do., 4 vols. incomplete	4	15
52	New Jersey Natural History Society, Journal, 2 vols.	2	3
53	Norfolk and Norwich Naturalists' Society, Transactions, 5 vols. ..	5	19
54	Northamptonshire Natural History Society and Field Club, Journal, 7 vols.	7	56
	Forward	691	1828

		Vols. or Parts.	Parts.
	Brought forward	691	1828
55	Northumberland and Durham and Newcastle-upon-Tyne, Natural History, Transactions, 8 vols. ..	8	14
56	Nova Scotian Institute of Natural Science, Proceedings and Transactions, 4 vols.	4	9
57	Owen's College, Manchester Museum, Reports, 2 vols.	2	2
58	Perthshire Society of Natural Science, Proceedings, 1 vol.	1	6
	Transactions and Proceedings, 1 vol.	1	2
59	Plymouth Institution and Devon and Cornwall Natural History Society, Proceedings, 8 vols.	8	23
60	Powysland Club (see No. 48) ..		
61	Royal Physical Society, Proceedings, 11 vols.	11	22
62	St. Louis Academy of Sciences, Trans- actions, 6 vols.	6	68
63	Scottish Geographical Magazine, 1 vol.	1	1
64	Scottish Natural History Society, Transactions, 1 vol.	1	1
65	Selkirkshire, History of, or Chronicles of Ettrick Forest, 2 vols. ..	2	2
66	Selborne Magazine, 1 vol. ..	1	1
67	Sheffield Naturalists' Club, Report, 1	1	1
68	Smithsonian Institution, Reports, 36 vols.	36	36
	Do., Miscellaneous Collections, 25	25	25
	Do., Unclassified Publications, 5	5	5
69	Sundries	111	111
70	Trenton Natural History Society (see No. 52)		
71	Tufts College Studies, 5 Nos. ..	5	5
72	United States Comptroller of the Currency, 2 Reports (3 copies of each)	6	6
73	United States Army Signal Service 3 maps	3	3
	Forward	929	2171

		Vols. or Parts.	Parts.
	Brought forward	929	2171
74	United States Department of Agriculture, Reports, 7 vols. ..	7	7
	Do., Year Books, 2 vols. ..	2	2
	Do., Bulletins, 8 vols. ..	8	8
	Do., N. American Fauna, 13 vols.	13	13
75	United States Geological and Geographical Survey of the Territories, Annual Reports, 11 vols.	11	11
	Do., Bulletins, 5 vols.	5	21
	Do., Final Reports, or Monographs, 9 vols.	9	9
	Do., Miscellaneous Publications, 14 Nos.	14	14
	Do., Unclassified Publications, 12 Nos.	12	12
76	United States Geological Survey, Annual Reports, 45 vols. ..	45	45
	Do., Monographs, 13 vols. ..	13	13
	Do., Bulletins, 33 Nos. ..	33	33
77	Upsala University Geological Institution, Bulletin, 4 vols. ..	4	7
	Do., Sundries (Donations) ..	68	68
78	Wanganui (New Zealand), Public Museum, Report, 1 ..	1	1
79	Wisconsin Academy of Sciences, Arts and Letters, 1 vol. ..	1	1
80	Wisconsin Geological and Natural History Survey, Bulletins ..	2	2
81	Yorkshire Naturalists' Union, Transactions, 21 Nos. ..	21	21
82	Yorkshire Philosophical Society, Report, 1	1	1
		1199	2460

Volumes, &c., 1199 divided into 2460 parts or numbers.

ERRATA.

PART II.

Page 202, line 8 from bottom—for “204” *read* 295.

Page 202, line 15 from bottom—the words “(Plate IX.)” following “Armorer’s Tower” should occur instead on page 205, line 5 from bottom, after the word “Postern.”

Page 207, line 25 from top—for “valiently” *read* valiantly.

Page 271, line 13 from top—for “sylvatium” *read* sylvaticum.

Page 274, line 7 from bottom—for “Trollins Europaens” *read* Trollius Europaens.

BERWICKSHIRE NATURALISTS' CLUB.

LIST OF MEMBERS, 1901.

Those marked with an Asterisk are Ex-Presidents.

Note.—Where A, C, and H occur before the names of Members this indicates

Associate Member.

Corresponding Member.

Honorary Member.

		Date of Admission.
	Adamson, Lawrence William, LL.D., Eglington Hall, Alnwick	Dec. 20, 1900
	Aiken, Rev. James Marshall Lang, Ayton ...	Oct. 10, 1888
	Albe, Herr Johannes, The Hawthorne, Duns ...	Oct. 10, 1894
	Allan, Andrew L., Riverside Mill, Selkirk ...	Oct. 12, 1892
	Alder, William, Halidon, Berwick	Oct. 13, 1880
A	Amory, Andrew, Alnwick	
A	Anderson, Adam, Cumledge Mills, Duns	
	Anderson, Dr Thomas Scott, Lintalee, Jedburgh	Oct. 20, 1884
	Andrews, Hugh, Swarland Hall, Felton ...	Oct. 14, 1891
	Archer, Joseph, Alnwick	Oct. 9, 1889
	Archer, Robert, Solicitor, Alnwick	do.
	Arkless, Rev. E., Earsdon Vicarage, Newcastle	Oct. 14, 1896
	*Askew Robertson, Watson, Ladykirk, Norham ...	Oct. 11, 1860
	Atkinson Clark, George Dixon, Belford Hall ...	Oct. 9, 1889
	Aytoun, Col. Andrew, R.A., 28 Inverleith Row, Edinburgh	Sept. 29, 1875

	Balfour, Charles Barrington, F.S.A. (Scot.), Newton Don, Kelso	Oct. 8, 1890
	Ballard, George Hartley, Grammar School, Berwick	Oct. 12, 1899
	Barr, John, 46 Main Street, Tweedmouth	Oct. 8, 1890
H	Barwell Carter, Mrs, The Anchorage, Berwick	
	Bates, Cadwallader J., Langley Castle, Langley-on-Tyne	Oct. 14, 1891
	Batters, Edward A. L., B.A., LL.B., F.L.S., The Laurels, Wormley, Herts	Oct. 10, 1883
	Bell, Robert Fitzroy, Advocate, Temple Hall, Coldingham	Oct. 12, 1898
	Bernard, Daniel, Marchmont House, Greenlaw	do.
	Bird, George, F.S.A. (Scot.), 38 Inverleith Place, Edinburgh	Oct. 12, 1881
	Blair, Robert, F.S.A., Harton Lodge, South Shields	Oct. 12, 1899
	Blanc, Hippolyte J., Architect, F.S.A. (Scot.), A.R.S.A., 25 Rutland Square, Edinburgh	Oct. 10, 1894
	Bolam, John, Bilton House, Lesbury	Sept. 30, 1869
	Bolam, George, Bilton House, Lesbury	Oct. 10, 1888
	Bolam, George, F.Z.S., Berwick	Oct. 15, 1879
	Bolland, Rev. W. E., Embleton Vicarage, Christon Bank, R.S.O.	Oct. 14, 1896
	Bosanquet, Robert Carr, Rock Hall, Alnwick	Oct. 12, 1887
	Bosanquet, C. B. Puleine, Rock Hall, Alnwick	Sept. 29, 1859
	Boswell, General J. J., C.B., Darnlee, Melrose	Oct. 10, 1888
	Bowhill, James William, 29 St. Andrew's Square, Edinburgh	Oct. 12, 1898
	Bowie, Alexander, Prioryhill House, Canonbie, Dumfriesshire	Oct. 11, 1882
	*Boyd, John B., Cherrytrees, Yetholm	Sept. 18, 1841
	*Boyd, William B., Faldonside, Melrose	Oct. 12, 1853
	Brewis, Nathaniel Thomas, M.D., F.R.C.P.E., 23 Rutland Street, Edinburgh	Oct. 12, 1898
	Broadway, John, Banker, Alnwick	Oct. 13, 1880
	Browell, Edmond John Jasper, East Boldon, R.S.O., South Durham	Oct. 20, 1884
H	Brown, Miss Helen M., Longformacus House, Duns	
	Brown, Col. Alex. Murray, Longformacus House, Duns	Oct. 11, 1882
	Brown, J. A. Harvie, Dunipace, Larbert, Stirlingshire	Oct. 13, 1897
	*Brown, T. Craig, Woodburn, Selkirk	Oct. 15, 1879
	Brown, Major Robert, Littlehoughton, Lesbury	Sept. 29, 1863
	Brown, Rev. J. Wood, M.A., 16 Corso Regina, Elena, Florence	Oct. 9, 1889
	Brown, Robert, Todlaw, Duns	Dec. 20, 1900
	Bruce, David, Stationmaster, Dunbar	Oct. 11, 1893
	Bruce, Sir Gainsford, one of His Majesty's Judges of the Supreme Court, Gainslaw House, Berwick	Oct. 10, 1894

LIST OF MEMBERS

iii

Brunton, James, Broomlands, Kelso	...	...	Sept. 25, 1868
Burleigh, Rev. J., Ednam, Kelso	...	...	Oct. 11, 1893
Burman, Charles Clark, M.R.C.S., Alnwick	...	...	Oct. 8, 1890
Butler, George G., M.A., F.G.S., Ewart Park, Wooler	...	...	Oct. 10, 1894
Cairns, John, Alison Place, Alnwick	...	...	Oct. 9, 1889
Campbell, John MacNaught, F.Z.S., 5 Franklin Terrace, Glasgow	...	...	Oct. 10, 1883
Campbell Swinton, J. L., Kimmerghame, Duns	...	...	Oct. 13, 1897
Carmichael, Sir Thomas Gibson, Bart., M.P., Castle Craig, Dolphinton, Peeblesshire	...	...	Oct. 12, 1898
Carmichael, Robert, Rosybank, Coldstream	...	...	Oct. 8, 1890
Carr, Robert, Hetton Hall, Belford	...	...	do.
*Carr Ellison, J. R., Hedgeley, Glanton	...	...	Sept. 26, 1872
Carr Ellison, Col. Ralph H., 1st Royal Dragoons, Hedgeley, R.S.O.	...	...	Oct. 14, 1896
Carr, Cuthbert Ellison, 1 Collingwood Street, New-castle-on-Tyne	...	...	Oct. 11, 1893
Carr, Rev. Charles Blackett, Longframlington, R.S.O.	...	...	Oct. 20, 1884
Carr, J. Evelyn, Heathery Tops, Berwick	...	...	Dec. 20, 1900
Carse, John Thomas, Amble, Acklington	...	...	Oct. 10, 1888
Caverhill, John, Jedneuk, Jedburgh	...	...	Oct. 11, 1894
Christison, Dr David, Secretary of the Society of Antiquaries of Scotland, 20 Magdala Crescent, Edinburgh	...	...	do.
Clark, G. D. Atkinson [see Atkinson-Clark]	...	...
Clay, R. H., Wembury House, Plymstock, So. Devon	...	...	May 30, 1861
Clay, Rev. Patrick Andrew, Ravensdowne, Berwick	...	...	Oct. 14, 1891
Cleland, George, Bank of Scotland, 61 Leith Walk, Leith	...	...	Oct. 9, 1895
Cochrane, John, Willow Bush, Galashiels	...	...	Oct. 8, 1890
Cochrane, Kenneth, Newfaan, Galashiels	...	...	Oct. 14, 1896
Cochrane, Walter, Lynhurst, Galashiels	...	...	Oct. 12, 1899
Cookson, C. Stirling Lisle, Renton House, Grants House	...	...	Oct. 20, 1884
Cooper, Rev. A. E., B.A., St. Peter's, Hooton, Chester	...	...	Oct. 12, 1899
Cowan, Rev. Charles J., B.D., F.S.A. (Scot.) Morebattle, Kelso	...	...	Oct. 13, 1880
Craig, William, M.D., C.M., F.R.C.S.E., F.R.S.E., 71 Bruntsfield Place, Edinburgh	...	...	Oct. 12, 1881
H Craig, Mrs M. G., 22 Buccleuch Street, Hawick	...	...
*Craig Brown [see Brown]	...	...
Craw, James Hewat, Foulden West Mains, Berwick-on-Tweed	...	...	Dec. 20, 1900
Crawford, William, Solicitor, Duns	...	...	Aug. 15, 1862
Crossman, Lawrence Morley, Cheswick House, Beal	...	...	Oct. 9, 1889

H	Culley, Mrs, Broxton House, Keynsham Road, Cheltenham	
	Culley, A. H. Leather, Bambergh, R.S.O. ...	Dec. 20, 1900
	Culley, Rev. Matthew, Esk Lands, near Durham	Oct. 10, 1883
	Cumming, James, 9 Braid Road, Morningside, Edinburgh	Oct. 12, 1881
	Cunningham, John, Sec Tor, Axminster ...	Oct. 8, 1890
	Curle, James, junr., F.S.A. (Scot.), Prior Wood, Melrose	Oct. 11, 1893
H	Daglish, John, Rothley Crag, Cambo	Oct. 11, 1893
	Dalziel, Frank J., Tweedholm, Walkerburn ...	Oct. 14, 1891
	Dand, Middleton H., Hauxley Cottage, Acklington	Oct. 28, 1859
	Dand, Miss Sarah, 10 Lockharton Terrace, Colinton Road, Edinburgh	
	Darling, Adam, Bondington, Berwick	Oct. 12, 1899
	Darling, Thomas, F.C.S., Adderston House, Berwick	Oct. 16, 1878
	Darling, Alexander, Governor's House, Berwick-on-Tweed	Dec. 20, 1900
	Davies, Arthur Ellson, West Savile Road, Edinburgh	Oct. 12, 1898
	Dees, Robert Richardson, Wallsend, Newcastle	Sept. 27, 1876
	Denholm, James, M.D., Meadowfield House, Brandon, Durham	Oct. 31, 1877
	Dent, John, Custom House Chambers, Newcastle	Oct. 9, 1895
	Dickinson, Miss Margaret R., Norham	
	Dickinson, Robert, Longcroft, Lauder ...	Oct. 10, 1894
	Dickson, Patrick Thorp, Creagmhor, Aberfoyle, N.B.	Oct. 28, 1857
	Dobie, Rev. W., M.A., Ladykirk, Norham ...	Sept. 27, 1876
	*Douglas, Sir George Brisbane, Bart., Springwood Park Kelso	Sept. 27, 1876
	*Dudgeon, John Scott, Longnewton Place, St. Boswells	Sept. 26, 1862
	Dun, John, Craigpark, Galashiels	Oct. 12, 1898
	Dunlop, Archibald Miller, 63 High Street, Lanark	Oct. 13, 1886
	Dunlop, James, Castle Terrace, Berwick ...	Oct. 9, 1895
	Dunlop, John, Solicitor, Berwick	Sept. 30, 1870
	Dunn, Thomas, 5 High Street, Selkirk	Oct. 14, 1891
	Dunn, William, Redden, Kelso	Oct. 12, 1898
A	Elder, Rev. J. L., Coldstream	Oct. 13, 1897
	Elliot, John, 2 South Liddle Row, Newcastleton	
	Elliot, Robert Henry, Clifton Park, Kelso ...	Oct. 15, 1879
	Elliot, Stuart Douglas, S.S.C., 40 Princes Street, Edinburgh	Oct. 10, 1894
	Ellis, The Hon. and Rev. William C., Bothalhaugh, Morpeth	Oct. 9, 1895
	*Ellison, [see Carr Ellison]	
	Erskine, Charles, The Priory, Melrose ...	Sept. 29, 1875

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*Evans, Arthur H., M.A., F.Z.S., 9 Harvey Road, Cambridge	Sept. 29, 1875
Evans, William, F.R.S.E., 38 Morningside Park, Edin- burgh	Oct. 13, 1886
Fairbrother, Rev. James, The Vicarage, Warkworth	Oct. 14, 1896
Fairfax, Colonel Sir William Ramsay, Bart., Maxton, St. Boswells	Oct. 20, 1884
Falconer, Allan A., Elder Bank, Duns	Oct. 11, 1894
*Farquharson, Rev. James, D.D., 4 Mardale Crescent, Edinburgh	June 29, 1865
Fenwick, Dr John C. J., Embleton Hall, Longfram- lington, R.S.O.	Oct. 9, 1895
Ferguson, James, Bailiffgate, Alnwick	Oct. 10, 1894
*Ferguson, John, F.S.A. (Scot.), Solicitor, Duns	Sept. 27, 1876
Findlay, Rev. John Agnew, M.A., 7 Inverleith Terrace, Edinburgh	Oct. 10, 1894
Fleming, Rev. Hugh, Mordington, Berwick	Oct. 9, 1895
Forbes, J. A., Commander R.N., West Coates, Berwick	Sept. 29, 1875
Ford, John, Royal Bank of Scotland, Duns	Oct. 12, 1892
Fortune, George, Kilmeny, Duns	Oct. 12, 1887
Fraser, Thomas, M.D., Berwick	Oct. 12, 1881
Friar, John Edmond, Grindon Ridge, Norham	June 25, 1863
Frost, Leonard, The Mead, Beal	Oct. 12, 1898
Gayner, Francis, 20 Queen Square, London, W.C.	Oct. 14, 1896
Gibb, Robert Shirra, M.B.C.M., Boon, Lauder	Oct. 10, 1883
Giles, Arthur, F.R.S.G.S., 107 Princes Street, Edin- burgh	Oct. 13, 1897
C Goodchild, J. G., F.G.S., H.M. Geological Survey (Scot.), Museum of Science and Art, Edinburgh	
Graham, Rev. M. H., Maxton, St. Boswells	Aug. 30, 1866
Graham, Thomas, Alnwick	Oct. 14, 1890
Grahame, Thomas, The Avenue, Berwick	Oct. 12, 1899
Gray Smith, Rev. W. H., Fogo, Duns	Oct. 13, 1897
Green, Rev. Charles E., B.A., Chulmleigh, Exeter, Devon	Oct. 31, 1877
Green, Robert Yeoman, 11 Lovaine Crescent, Newcastle	Oct. 20, 1884
Greenwell, Rev. Canon, M.A., D.C.L., F.R.S., F.S.A., Hon. F.S.A. (Scot.), Durham	July 25, 1861
Gregson, Delaval Knight, Berwick	Oct. 20, 1884
Greig, James Lewis, Advocate, Eccles House, Kelso	Oct. 12, 1898
Greig, Thomas, Wester Wooden, Roxburgh	Oct. 10, 1883
Grey, Sir Edward, Bart., M.P., Fallodon, Chathill	Oct. 10, 1888
Grey, John, Broomhill, Acklington	Oct. 12, 1899
H Grey, Mrs, Lorbottle, Whittingham	

	Guthrie, William Grant, 6 Lockhart Place, Hawick	Oct. 13, 1886
	Haddington, The Right Honourable the Earl of, Tynningham House, Prestonkirk	Oct. 31, 1877
	Hall, William Thompson, Troughend, Woodburn	Oct. 12, 1881
	Halliday, John, 5 Holland Park, London, W. ...	Sept. 29, 1875
	Hardy, George, Oldcambus East Mains, Cockburnspath	Oct. 10, 1894
H	Hardy, Mrs, Eden House, Gavinton, Duns	
	Hay, Robert Mordaunt, Duns Castle, Duns ...	Oct. 14, 1896
	Heatley, W. R., 4 Linden Villas, Gosforth ...	Oct. 9, 1895
	Hepburn, Sir Archibald Buchan, Bart., Smeaton Hepburn, Prestonkirk	Sept. 27, 1876
	Henderson, George, Upper Keith, East Lothian	Oct. 20, 1884
	Herriot, David, Sanson Seal, Berwick	Oct. 20, 1884
	Heslop, Richard Oliver, 12 Akenside Hill, Quayside, Newcastle-on-Tyne	Oct. 8, 1890
	Hindmarsh, Thomas Chas., Barrister-at-Law, 1 Essex Court, Temple, London	Oct. 31, 1877
	Hindmarsh, William Robson, South Lodge, Alnwick	Oct. 12, 1898
	*Hindmarsh, W. T., F.L.S., Alnbank, Alnwick ...	Sept. 26, 1872
	Hilson, James Lindsay, Kenmore Bank, Jedburgh	Oct. 14, 1896
	Hilson, Oliver, J.P., Lady's Yards, Jedburgh ...	Oct. 10, 1894
	Hodgson, John Crawford, Abbey Cottage, Alnwick	Oct. 13, 1880
	Hogg, John, Quixwood, Grants House ...	Oct. 14, 1885
	Home, The Right Honourable the Earl of, Hirsell, Coldstream	Oct. 11, 1882
	Hood, James, Linnhead, Cockburnspath ...	Oct. 8, 1890
H	Hood, Miss Jean, Linnhead, Cockburnspath	
	Hope, Colonel Charles, Cowdenknowes, Earlstoun	Oct. 10, 1894
	Huggup, Robert, Low Hedgeley, Glanton ...	Oct. 8, 1890
	*Hughes, George P., Middleton Hall, Wooler ...	Oct. 20, 1856
	Hughes, Dr Pringle, Firwood, Wooler ...	Sept. 30, 1869
	Hume, David, Thornton, Berwick	Oct. 11, 1893
	Hunter, Rev. David, D.D., Galashiels	do.
	Hunter, Major James, Anton's Hill, Coldstream	Sept. 27, 1876
	Hunter, John, M.A., Beech Dale, Esplanade, Whitley	Oct. 20, 1884
	Hunter, Rev. Joseph, M.A., F.S.A. (Scot.), Cockburns- path	Sept. 29, 1875
	Inglis, Rev. R. C., Berwick-on-Tweed ...	Oct. 13, 1897
	Johnson, Edward, M.D., 6° Bickenhall Mansions, Glou- cester Place, London, W.	Oct. 12, 1881
	Johnson, W. H., Tweed Villa, Relugas Road, Edinburgh	Oct. 31, 1877
	Johnston, Rev. John, B.D., Eccles, Kelso ...	Oct. 10, 1894
	Johnstone, John Carlyle, M.D., The Hermitage, Melrose	Oct. 12, 1899

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	Joicey, Sir James, Bart., M.P., Longhirst, Morpeth	Oct. 12, 1887
	Jones, Rev. Ambrose, M.A., Stannington, Cramlington	Sept. 26, 1871
	King, W. Y., M.A., H.M. Inspector of Schools, 27 Rutland Street, Edinburgh	Oct. 9, 1889
	Laidlaw, James, Allars Mill, Jedburgh	Oct. 12, 1892
A	Laidlaw, Walter, Abbey Cottage, Jedburgh	
H	Langlands, Miss, 5 Strathearn Place, Edinburgh	
	Langston, Rev. A. E., Hebburn Vicarage, Newcastle	Oct. 10, 1883
	Leadbetter, Hugh Macpherson, Legerwood, Earlstoun	Oct. 10, 1888
	Leather, Major Gerard F. Towler, Middelton Hall Belford	Oct. 9, 1889
	Leather-Culley [see Culley]	
	Leishman, Rev. James F., M.A., Linton, Kelso	Oct. 9, 1895
*	Leishman, Rev. Thomas, D.D., F.S.A. (Scot.), 4 Douglas Crescent, Edinburgh	Oct. 20, 1856
	Leitch, David, Greenlaw	Oct. 14, 1885
	Leyland, C. J., Haggerston Castle, Beal	Oct. 10, 1894
	Little, William, National Bank of Scotland, Galashiels	Oct. 8, 1890
	Lockhart, Capt. William Elliott, Cleghorn, Lanark, N.B.	Sept. 27, 1876
	Lynn, Francis, F.S.A. (Scot.) Livingstone Terrace, Galashiels	Oct. 10, 1894
	Macadam, Wm. Ivison, F.I.C., F.C.S., F.S.A. (Scot.), etc., Professor of Chemistry, New Veterinary College, Analytical Laboratory, Surgeons' Hall, Edinburgh	Oct. 13, 1886
	Macaulay, Donald, Chemist, Alnwick	Oct. 12, 1898
	Mack, James S., S.S.C., Coveyheugh, Reston	Oct. 12, 1881
	Mackay, Matthew, 36 Highbury, West Jesmond, New- castle	Oct. 10, 1888
	Macpherson, Major James F., Caledonian United Service Club, Edinburgh	Sept. 25, 1868
	Macqueen, William Barrow, Solicitor, Procurator Fiscal, Duns	Oct. 14, 1891
	Maddan, William, British Linen Co.'s Bank, Berwick	Oct. 12, 1881
	Main, Alexander James, M.D., Alnwick	Sept. 26, 1870
	Mair, James, Parkside, Roker, Sunderland	Oct. 12, 1892
	Maitland, Hon. and Rev. Sydney George William, Thirlstane Castle, Lauder	Oct. 14, 1891
	Marjoribanks, Rev. Thomas, B.D., The Manse, Hound- wood	Oct. 12, 1899
	Marr, James, M.B.C.M., Ivy Lodge, Greenlaw, Ber- wickshire	Oct. 12, 1898
	Marshall, Robert, Woodmarket, Kelso	Oct. 8, 1890

	Martin, Rev. Thomas, B.D., Lauder	...	...	Oct. 13, 1886
	Mathison, Thomas, Wandylaw, Chathill	...	...	Oct. 10, 1888
	Maxwell, Capt. Wm. Hy. Stopford Heron, Muirhouse-law, Maxton, St. Boswells	...	...	Oct. 12, 1899
	McCreath, H. G., Galagate, Norham	...	...	Oct. 14, 1891
	McDouall, Rev. Patrick George, M.A., Oxford House, Clarence Parade, Southsea	...	...	July 25, 1861
	McDougal, Alexander Nisbet, Solicitor, Duns	...	...	Oct. 10, 1894
	McDowall, T. W., M.D., F.S.A. (Scot.), County Asylum, Cottingwood, Morpeth	...	...	Sept. 29, 1875
	McNee, George Fraser, 16 Chambers Street, Edinburgh	...	...	Oct. 12, 1899
	McVie, Samuel, M.B., Chirnside	...	...	Oct. 14, 1896
	Mein James, A. W., Hunthill, Jedburgh	...	...	Oct. 15, 1879
	Mercer, Ebenezer Beattie, Manufacturer, Stow	...	...	Oct. 12, 1899
	*Middlemas, Robert, Solicitor, Alnwick	...	...	June 25, 1863
H	Middlemas, Mrs Robert, Alnwick			
	Middlemas, Robert, junr., Bailiffgate, Alnwick	...	...	Oct. 12, 1898
	Middleton, Rev. Charles J. More, M.A., Crailing, Jedburgh	...	...	Oct. 10, 1894
	Millar, James, Solicitor, Duns	...	...	Oct. 12, 1899
	Miller, A. L., Castlegate, Berwick	...	...	Oct. 12, 1881
	Milliken, William, Swinhoe, Chathill	...	...	Dec. 20, 1900
	Milne Home, Captain David William, Caldra, Duns	...	...	Oct. 12, 1898
H	Milne Home, Miss Georgina S., Milne Graden, Coldstream			
H	Milne Home, Miss Jean Mary, Caldra, Duns			
	Milne Home, John Hepburn, Caldra, Duns	...	...	do.
	Mitchell, James, 220 Darnley Street, Pollokshields, Glasgow	...	...	Dec. 20, 1900
	Moore, C. E., Beaconsfield Terrace, Alnwick	...	...	do.
	Morton, Benjamin, 18 St. George's Square, Sunderland	...	...	Oct. 12, 1887
	Muckle, Robert, Manor House, Tynemouth	...	...	Oct. 9, 1895
	Muirhead, George, F.R.S.E., F.Z.S., F.S.A. (Scot.), Speybank, Fochabers, N.B.	...	...	Sept. 24, 1874
	Newbiggin, James Lesslie, Alnwick	...	...	Oct. 12, 1881
	Nisbet, George, Rumbleton, Greenlaw	...	...	Oct. 9, 1895
	Nisbet, James, Lambden, Greenlaw	...	...	Oct. 10, 1883
	*Norman, F. M., Commander R.N., Cheviot House, Berwick	...	...	Sept. 24, 1874
	Northumberland, His Grace the Duke of, K.G., Alnwick Castle	...	...	Oct. 9, 1889
	Oliver, Joseph, Eslington Park, Whittingham	...	...	Oct. 20, 1884

	Paton, Henry, M.A., 120 Polwarth Terrace, Edinburgh	Oct. 13, 1897
	Paton, Lieut.-Col. James, Crailing, Jedburgh	Sept. 26, 1872
	*Paul, Rev. David, LL.D., 53 Fountainhall Road, Edinburgh	Sept. 30, 1870
H	Paul, Mrs, 53 Fountainhall Road, Edinburgh	
	Paulin, Thomas, Albion Brewery, Mile End, London	Dec. 20, 1900
	Paynter, Henry A., Freeland, Alnwick	Sept. 26, 1872
	Percy, Charles, Clifton House, Alnwick	Oct. 20, 1884
	Phillips, Maberley, F.S.A., Pevensey, Enfield	Oct. 11, 1893
	Phillipson, Sir George Hare, M.D., D.C.L., M.A., 7 Eldon Square, Newcastle	Oct. 20, 1884
	Pigg, George, Thornhill, Alnwick	Oct. 11, 1893
	Plummer, Charles H. Scott, Sunderland Hall, Selkirk	Oct. 12, 1892
	Porteous, Rev. Thomas, B.D., 7 Hart Street, Edinburgh	Oct. 10, 1894
	Purvis, Charles E., Westacres, Alnwick	Oct. 9, 1895
	Rankin, George, W.S., Lauder	Oct. 12, 1899
	Rea, Charles, Cleithaugh, Jedburgh	June 29, 1855
	Redpath, Robert, <i>Journal</i> Office, Newcastle	Oct. 9, 1889
	Renton, Robert Charles Campbell, Mordington, Berwick	Oct. 12, 1899
	Reid, Rev. John, M.A., Foulden, Berwick	Oct. 14, 1896
	Richardson, John, Little Mill, Lesbury, R.S.O.	Oct. 12, 1898
	Richardson, Ralph, F.R.S.E., 2 Parliament Square, Edinburgh	Oct. 12, 1892
	Riddle, Andrew, Yeavinger, Kirknewton	Oct. 12, 1898
	Ridley, Sir Edward, 48 Lennox Gardens, London, S.W.	Sept. 27, 1876
	Robert, Rev. Edward, St. Mary's, Alnwick	Oct. 8, 1890
	Roberts, Alexander F., Thornfield, Selkirk	Oct. 20, 1884
	Robertson, Dr E. C., Otterburn, Newcastle	Oct. 31, 1877
	*Robertson, Watson Askew [see Askew Robertson]	
	Robertson, William, Alnmouth	Oct. 10, 1883
	Robinson, William John, New Moor Hall, Morpeth	Oct. 10, 1888
	Robson, A. D., Solicitor, Galashiels	Oct. 9, 1895
	Romanes, Charles S., 50 Frederick Street, Edinburgh	Oct. 20, 1884
	Romanes, James, Harewood Gleam, Selkirk	Oct. 12, 1899
	Roscamp, John, Shilbottle Colliery, Lesbury	Oct. 10, 1888
H	Russell, Miss, Ashiestiel, Galashiels	
	Rutherford, F. Elliot, 1 Oliver Place, Hawick	Oct. 12, 1887
	Rutherford, Henry, Fairnington Crag, Roxburgh	Oct. 10, 1883
	Rutter, Rev. Evan, M.A., Spittal, Berwick	Sept. 25, 1873
	Sanderson, Richard Burdon, Waren House, Belford	Oct. 10, 1883
	Sanderson, Stephen, The Elms, Berwick	June 28, 1859
	Sanderson, William J., Eastfield, Acklington	Dec. 20, 1900
	Scott, Adam Pringle, Banker, Amble	Oct. 13, 1897
	Scott, John C., Synton, Hawick	Oct. 12, 1892

	Sharpe, Rev. J., Heatherlie, Selkirk	Oct. 11, 1893
	Shaw, Robert Hogg, Leet Cottage, Coldstream	Oct. 12, 1892
A	Shaw, William, 3 Livingston Place, Galashiels	
	Short, T. B., Ravensdowne, Berwick	Oct. 10, 1888
	Simpson, David G., F.R.A.S., 199 Camberwell Grove, Denmark Hill, London	Oct. 10, 1894
	Simpson, Rev. Macduff, M.A., Edrom, Duns	Oct. 12, 1887
	Simpson, Richard H., Ravensmede, Alnwick	Oct. 13, 1897
	Simson, Thomas, Commercial Bank, Jedburgh	Oct. 12, 1887
	Skelly, George, Alnwick	Oct. 15, 1879
	Smail, Elliot Redford, 7 Bruntsfield Crescent, Edin- burgh	Oct. 12, 1899
	*Smail, James, F.S.A. (Scot.), 7 Bruntsfield Crescent, Edinburgh	July 26, 1866
	Small, Rev. Robert, Caddonfoot, Galashiels	Oct. 15, 1879
	Smith, Andrew, Whitcheater, Duns	Dec. 20, 1900
	Smith, J. C. R., Mowhaugh, Yetholm	Oct. 8, 1890
	Smith, R. Addison, S.S.C., 19 Heriot Row, Edinburgh	Oct. 12, 1892
	Smith, R. Colley, Ormiston House, Roxburgh	do.
	Smith, T. D. Crichton, Forestfield, Kelso	Oct. 12, 1881
	Smith, Gray [see Gray Smith]	
	Somervail, James Alexander, Hoselaw, Kelso	Oct. 13, 1897
H	Spoor, Mrs, 9 Lonsdale Road, Scarborough	
	Sprot, Lieut-General John, Riddell, Lilliesleaf	Oct. 20, 1884
	Sprott, Rev. George W., D.D., North Berwick	Sept. 27, 1876
	Steadman, William Charles, Abbey Green, Jedburgh	Oct. 14, 1896
	Steel, William Strang, Philipphangh, Selkirk	Oct. 12, 1892
	Steele, Rev. James, Heworth Vicarage, Newcastle	Oct. 9, 1889
	Steele, William, F.S.A. (Scot.), Inland Revenue Office, Kelso	Oct. 8, 1890
	Stephenson, Robert, Chapel, Duns	Oct. 11, 1882
	Steven, Alexander, Stecarven, Berwick	Oct. 14, 1896
	Stevenson, James, Architect, Berwick	Oct. 10, 1888
	Stevenson, James, junr., Architect, Berwick	Oct. 9, 1895
	Stirling, Dr Stewart, 4 Coates Crescent, Edinburgh	Oct. 12, 1887
	Storey, Ralph Storey, Beanley, Alnwick	Oct. 14, 1891
	*Stuart, Charles, M.D., Hillside, Chirnside	Aug. 16, 1854
	Swan, William Bertram, Auctioneer, Duns	Oct. 13, 1897
	Sym, Rev. Arthur Pollok, B.D., Lilliesleaf, St. Boswells	Oct. 9, 1895
	Swinton [see Campbell Swinton]	
	Tancred, George, Weens House, Hawick	Oct. 13, 1886
	Tait, David W. B., W.S., Edenside, Kelso	Oct. 20, 1884
	Tait, James, Estate Office, Belford	Oct. 31, 1877
	Tate, George, Brotherwick, Warkworth	Oct. 9, 1889
	Tate, John, Oaklands, Alnwick	July 31, 1862

Tate, Thomas, Allerburn, Alnwick	...	...	July 26, 1863
Tennant, Edward P., The Glen, Innerleithen	...	...	Oct. 12, 1881
Thew, Arthur H., 11 Bewick Road, Gateshead	...	...	Oct. 16, 1878
Thew, Edward, Birling Manor, Warkworth	...	...	Oct. 12, 1887
Thin, James, 54 South Bridge, Edinburgh	...	...	Oct. 10, 1883
Thin, John, Ferniehirst, Stow	...	...	Oct. 10, 1894
Thompson, Andrew, Glanton, Northumberland	...	...	Oct. 9, 1889
Thompson, Andrew, F.S.A. (Scot.), Schoolhouse, Glendinning Terrace, Galashiels	...	...	Dec. 20, 1900
Thompson, George H., Alnwick	...	...	Oct. 31, 1877
Thompson, Major R., Walworth Hall, Darlington	...	...	Sept. 26, 1872
Thomson, James, Shawdon Cottage, Redcar	...	...	Oct. 10, 1883
Thornton, Rev. Edward, M.A., Ancroft Vicarage, Beal	...	...	Oct. 14, 1891
Thorp, Thomas Alder, Narrowgate House, Alnwick	...	...	Oct. 8, 1890
Tristram, Rev. Canon, D.D., F.R.S., F.S.A., Durham	...	...	Oct. 15, 1879
Turnbull, George G., 58 Frederick Street, Edinburgh	...	...	Oct. 11, 1893
Turnbull, John, Royal Bank, Galashiels	...	...	Oct. 10, 1894
Turnbull, John, junr., 11 Slitrig Crescent, Hawick	...	...	Oct. 8, 1890
Turnbull, John Pringle, Alnwick	...	...	Sept. 30, 1870
Tweeddale, The Most Honourable the Marquess of, Yester House, Gifford	...	...	Oct. 12, 1881
Tweedmouth, Right Hon. Lord, Hutton Hall, Chirnside	...	...	Oct. 12, 1887
Veitch, David, Market Place, Duns	...	...	Oct. 12, 1895
Veitch, George, Northern Club, Edinburgh	...	...	Oct. 9, 1889
Veitch, James, Inchbonny, Jedburgh	...	...	Oct. 12, 1899
Voelcker, John A., B.A., Ph.D., B.Sc., F.L.S., F.C.S., F.I.C., 20 Upper Phillimore Gardens, Ken- sington, W.	...	...	Oct. 9, 1895
Waite, William Home, Duns	...	...	Oct. 11, 1893
*Walker, Rev. Canon, M.A., Whalton Rectory, Newcastle	...	...	Oct. 16, 1878
H Warrender, Miss Margaret, Bruntisfield House, Edin- burgh	...	...
Watson, David McB., Hillside Cottage, Hawick	...	...	Sept. 29, 1875
Watson, Dr., Whittingham, Alnwick	...	...	Oct. 14, 1891
Watson, Robert Fraser, Hassendeanburn, Hawick	...	...	Oct. 8, 1890
Wagh, Andrew, High Street, Hawick	...	...	Oct. 13, 1886
Wearing, Henry, Allerton House, Jedburgh	...	...	Oct. 14, 1896
Weatherhead, J. K., Solicitor, Berwick	...	...	Oct. 16, 1878
Weatherhead, William, Solicitor, Berwick	...	...	Sept. 26, 1871
Weddell, Robert, Solicitor, Berwick	...	...	Oct. 13, 1880
Weir, R. S., 31 Linskill Terrace, North Shields	...	...	Oct. 14, 1891
Welford, Richard, Gosforth, Newcastle	...	...	Oct. 9, 1889
Weston, Walter, Inland Revenue Office, Alnwick	...	...	Oct. 9, 1895
Wheler, Edward Galton, Swansfield House, Alnwick	...	...	Oct. 8, 1890

	Whitlie, Andrew, Commercial Bank of Scotland, 62 Lombard Street, London	Oct. 12, 1899
	Widdrington, Major Shallcross Fitzherbert, Newton Hall, Felton	Oct. 13, 1880
	Wilkin, Henry George, Ailwick	Oct. 8, 1890
	Willoby, Edward, Berwick	Oct. 12, 1881
	Willyams, Humphrey John, Barndale, Ailwick	Oct. 12, 1898
	Wilsden, Rev. Canon J. S., The Vicarage, Wooler	Oct. 12, 1887
	Wilson, Rev. Beverley S., Brantingham Vicarage, Brough, Yorkshire	Sept. 24, 1874
	Wilson, Edward J., Schoolhouse, Abbey St. Bathans	Oct. 13, 1897
	Wilson, John, 26 Chapel Hill, Lauder Road, Edinburgh	Oct. 11, 1893
	Wilson, Joseph, Solicitor, Duns	Oct. 12, 1881
	Wilson, William, B.A., Hide Hill, Berwick ...	Oct. 31, 1877
H	Wood, Mrs, Woodburn, Galashiels	
	Workman, Rev. William, Stow	Oct. 12, 1887
	Wright, J., Bank of Scotland, Duns	Oct. 11, 1894
	Young, William, Berwick	Oct. 9, 1889

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HISTORY
OF THE
BERWICKSHIRE
NATURALISTS' CLUB.

INSTITUTED SEPTEMBER 22, 1831.

"MARE ET TELLUS, ET, QUOD TEGIT OMNIA, CÆLUM."

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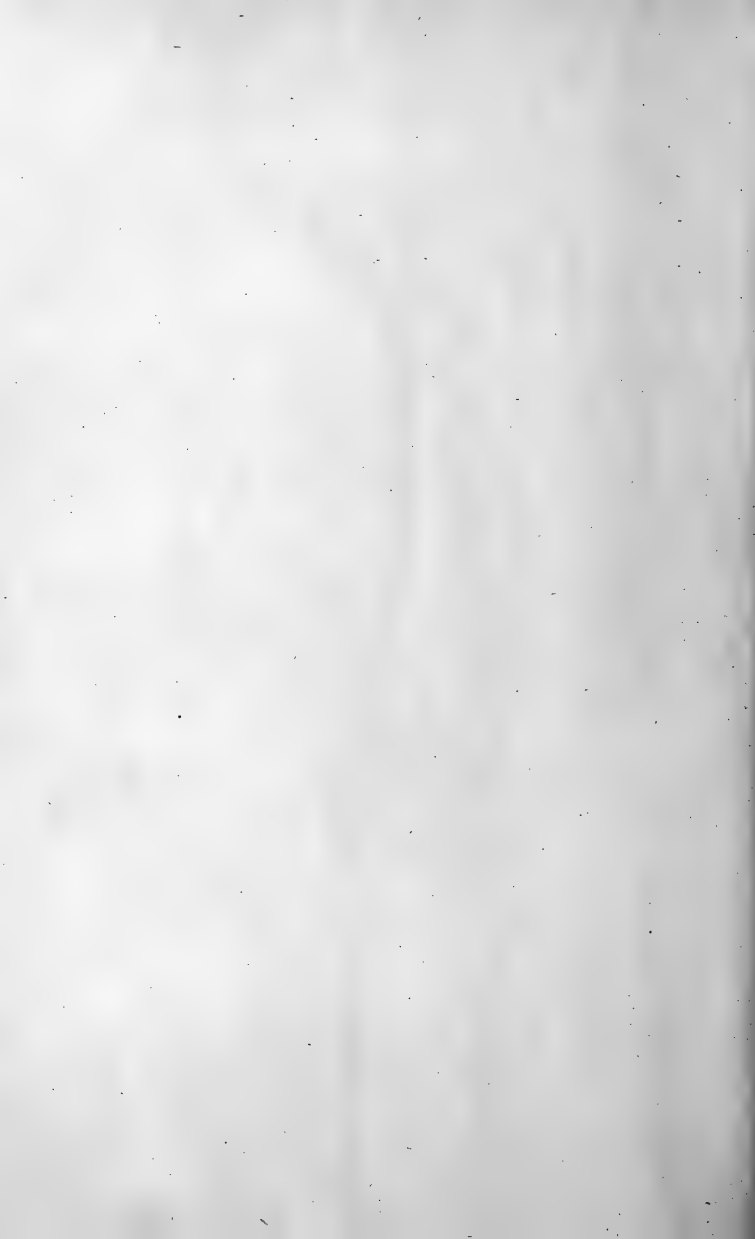
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PROCEEDINGS
OF THE
BERWICKSHIRE NATURALISTS' CLUB.

*Address delivered to the Berwickshire Naturalists' Club
at Berwick, 17th October 1901. By SIR GEORGE B.
DOUGLAS, BART., Springwood Park, Kelso.*

SOME LITERARY AND ARTISTIC ASSOCIATIONS
OF THE BORDER.

GENTLEMEN,

It must be obvious, I think, to all of us that the seventy years which have elapsed since the foundation of our Club have not merely enlarged its sphere of operations, but have added to the subjects of its study. Whether the belles-lettres and fine arts come avowedly under our cognizance, I must not take upon me to decide; but I submit that by our visits to the haunts of poets, our careful examination of works of art brought before us

in our excursions, we have tacitly admitted our interest in Poetry and Painting. I, therefore, make no apology for addressing to you to-day a few remarks on Some Literary and Artistic Associations of the Border Counties ; and I may perhaps be permitted here to add that the leaflet which I had the honour of circulating among members of the Club, at the meeting of 14th August last, was intended in some measure to strike the keynote of to-day's observations. My chief motives in selecting this theme have been the undeserved neglect and untimely oblivion which are rapidly overtaking the names of certain Borderers, erst celebrities of the chisel, palette, goose-quill, or poet's lyre. What, unaided, I can hope to do to keep these memories green, is indeed but little. But I speak in the trust that others will complete what I aspire merely to indicate.

JOHN ARMSTRONG.

At the Thomson Bi-Centenary Celebrations of last year, it was with surprise and regret I noticed the unbroken silence preserved by the speakers with regard to one particular name. It was the name of the friend, the disciple, the beneficiary, and, to a small extent, the collaborator of Thomson ; born in the same county with him, and distinguished in the same art of poetry—the name of all others, in fact, which one would expect to hear mentioned in that particular connection, and on that particular occasion. But though the speakers were numerous, though they certainly did not stint their eloquence, they had amongst them not a word to say of Armstrong ! How was this ? Can it be that the poet of the “Art of Preserving Health,” the lyric high-priest of Hygeia, is forgotten in his own country ? He has a place in the standard collections of the British Poets ; whilst, even of his secondary or prose writing, the impartial dispenser of immortality in the National

Biographical Dictionary declares that it is "undeserving of the neglect into which it has fallen." Will you, in these circumstances, permit me for one moment to recall this author to your recollection. We need not burden our memories with many facts concerning his life, which was uneventful. A son of the minister of Castleton in Liddesdale, he was born in the manse there, in 1709—nine years later, that is, than Thomson. He entered the medical profession, went to London, and was there befriended as a fellow-countryman by the elder poet. This was on the occasion of his first attempts in literature.* His principal poem first saw the light in 1744. Perhaps it may be of some interest here to compare it in one or two particulars with the so much better known poem of the greater Roxburghshire poet. Both poems then belong, of course, to that didactic-descriptive school or period of poetry which was inaugurated by Thomson's *Seasons* and closed by Campbell's *Pleasures of Hope*. And at first sight they appear to have this also in common—supreme felicity in the choice of a subject. For if there ever was a theme of eternal and universal interest, it is surely the Preservation of Health! A second glance, however, reveals the fact that the treatment of that theme in poetry presents peculiar difficulties. Obviously health in itself is poetic, but whether the means of preserving or attaining to it are equally so is less certain. Great, however, as his difficulties were, we are bound, I think, in justice to acknowledge that Armstrong fairly triumphed over them. His method of procedure was as follows. Going to the fountain-head of all great didactic poetry, the *De Rerum Naturâ* of Lucretius for his model, he treats in his four Books of Air, Diet, Exercise, and the Passions. His precepts, if seldom novel, are invariably sound and judicious—in fact they may be said to sum up and enforce the

* Cary's "Lives of English Poets," p. 94.

teaching of the ages on their subject. And they are set before us in acceptable, nay, attractive form—adorned with as much of poetic ornament, inspired with as much of poetic emotion, as the nature of the argument admits. What more can we desire? (The poet's views on this matter, by the way, are well set forth in his essay on "Florid Writing.") In fine, except by those who, in this post-Wordsworthian age, have lost all relish for 18th century blank verse, his book may still be enjoyed as poetry, as it may certainly be studied with profit as a medical or hygienic treatise. At his best the author attains to philosophic breadth of view, and utters his wisdom in sonorous rhetoric.

Against this, it must be admitted that his muse has not the immaculate character of his, who wrote

"No line which dying he would wish to blot."

For Armstrong has incurred, and perhaps deserved, severe censure for the levity and prurience of one of his minor works. It is but fair to add, however, that he afterwards endeavoured to tone down the offending passage; and that his principal poem—the only one now likely to be read—is quite free from objection on these grounds. Considering him as a *local* bard, his apostrophe to the river on whose banks his childhood was spent surpasses that of Thomson; which perhaps, of itself, does not imply a great deal. But I think that, though couched in the half-conventional language of the age, the lines in question have the accent of sincerity. In his worldly circumstances, Armstrong was fairly prosperous, enjoying some preferment from the Government of his day, as physician, first to a Military Hospital, and, later, to the British Army in Germany. He died, comfortably off, in the year 1779. Our district is not so rich in eminent men that we can afford to forget him just yet.

MICHAEL SCOTT.

Though we may not all of us have studied Armstrong's masterpiece, I daresay there is scarcely a gentleman present but is familiar with the sea-novel, "Tom Cringle's Log." But though we have rejoiced in its quaint humours, and admired the beauty and vividness of its literary pictures of storm and calm in the tropics, perhaps not many of us are aware that this wonderful book was written at Birseslees Cottage, near St. Boswells. My grounds for making this statement were put forward in my little book on the "Blackwood Group," published four or five years ago; and "Cringle's" editor and biographer, Mr Mowbray Morris, has acknowledged that the evidence on which my statement rests is at least as good as that on which rest most other statements regarding a life which was strangely obscure. Since that time, however, a West Indian correspondent has drawn my attention to a local tradition that Cringle, or Michael Scott—to give him his true name—wrote at least the first sketches of his work whilst seated beneath a cabbage palm-tree in the garden of a house known as Raymond Hill in Jamaica.* This view, however, supposing we accept it, is not wholly incompatible with mine. No less than seven years are known to have elapsed between Scott's final departure from Jamaica and the publication of his book. Are we to assume that the completed MS. of the Log lay in his desk during all that time? The most plausible theory, perhaps, is that notes and sketches made at Raymond Hill were worked up at Birseslees. The writer in the Biographical Dictionary says that the book was probably composed in Glasgow, in intervals of business; but it is obvious that he wrote in ignorance of either tradition. Candour compels me to acknowledge, however, that beyond the single though reliable testimony quoted

* See an article in the *Jamaica Daily Gleaner* for March 7th 1900.

in my book, I have discovered no further evidence of Scott's having lived at Birseslees. Doubtless the strictness of his literary incognito goes some way towards accounting for this. None the less, in the case of a man of such abounding vitality and so marked a personality, the fact is a little difficult to explain. And here permit me to add what is pleasing to remember—namely that, in the author of “At School and at Sea,” no unworthy follower in Tom Cringle's steps is at present numbered with ourselves.

THE POET CAMPBELL.

Whilst on this topic of literary localities, there are two or three more small items which I may venture to recall to your memories. You may happen to remember, for instance, that Minto House, in Roxburghshire, is associated with the memory of the poet Campbell, and the composition of one of his most celebrated poems. In 1801, as a young man who had just made his name, Campbell was on a visit to the first Earl of Minto. At dead of night, he felt the pains of poetic parturition come upon him. Regardless of alarming the house, he rang the bell for tea, and then and there “completed the first sketch” of *Lochiel's Warning*, which contained this oft quoted couplet:*

“’Tis the sunset of life gives me mystical lore,
And coming events cast their shadows before.”

THOS. HAMILTON.

At the cottage of Chiefswood, near Melrose—which he rented as a summer tenant from J. G. Lockhart—about the year 1827, Captain Thomas Hamilton wrote the greater part of “The Youth and Manhood of Cyril Thornton,”—

* Beattie's “Life of Campbell,” Vol. i., pp. 394, 395.

a novel which is still worth looking into for a few scenes in which the poetry and romance of military life, under conditions now obsolete, are admirably set forth. Of the storming of the heights of Roleia, the lines of Torres Vedras, the siege of Badajos, and the battle of Albuera, the author wrote as an eye-witness. In the same house, Lockhart himself wrote his "Spanish Ballads," and two or three novels.

REV. ARCHIBALD CRAIG.

In the secluded manse of Bedrule, before the end of 1859, a scholarly Border minister, the Rev. Archibald Craig, translated into English heroic verse the *Argonautica* of the Alexandrian poet, Apollonius Rhodius. I have compared his version of the most celebrated passage in the poem* with that of William Broome, who was one of Pope's assistants in the translation of the *Odyssey*.† They differ widely in character; for Craig's version is somewhat diffuse, whilst Broome's, on the other hand, is avowedly condensed. Where comparison is possible, however, I cannot see that Craig comes off second-best. One may regret, in passing, the discontinuance of such classical studies among the leisured ministers of the country parishes.

REV. GEORGE RIDPATH.

A literary Border minister, the omission of whose name from the Biographical Dictionary was a source of regret to the late Rev. George Gunn, our lamented Secretary (who had more than one point in common with him), was the Rev. George Ridpath of Stichill. His

* Νῦξ μὲν ἔπειτ' ἐπὶ γαίαν ἄγειν κνέφας, κ. τ. λ.

Book iii, verse 744.

† "Life of Broome," prefixed to his *Poems*; Cooke's Pocket Edition,

"History of the Border Counties, from the Earliest Times to the Union of the Crowns" was published posthumously in 1776. It is based on careful independent study of original authorities; and though for a local history perhaps somewhat too general in character, it remains to this day a useful though not final book of reference. I believe that a MS. diary of Ridpath's has lately come to light, and that it will be given to the world by a lady who has often graced our meetings by her presence.

ALEX. JEFFREY.

In Alexander Jeffrey's *History of Roxburghshire*, time and improved facilities for study have revealed a fair crop of errors and inaccuracies. But few historians escape this Nemesis. And, this notwithstanding, there yet remains in the book much interesting information of a miscellaneous order, which is not found elsewhere.

LADY JOHN SCOTT.

It has been one of the pleasures of my term of office to avail myself of my privilege of choice to get the Club to visit Spottiswoode and Kirkbank House. Thus we have twice paid homage to a Border poetess, who dedicated her gift of authentic melody and her warmth of affection to celebrating the wild natural beauties of this countryside, and to cherishing the memories of the Past.

And whilst we are upon this attractive subject of woman-poets, let us not omit to honour with due meed of praise the Durham singer, Dora Greenwell,* who has likewise bequeathed to us some sweet strains of pure and womanly song.

* Born 1821.

ROBERT FRAIN.

And now suppose we turn from Border writers to Border artists. Robert Frain must certainly have been a "painter born"; for, though apparently living remote from aught that could prompt or direct the graphic impulse, he yet made up his mind to be an artist, and, what was more, contrived to learn to draw and paint in a thoroughly workmanlike style. Perhaps a strain of foreign blood may help to account for the anomaly; for he claimed that the Frains were of French extraction, and that the old form of the name was *Le Frêne*, i.e. the ash-tree. At some period towards the commencement of last century, Frain, then a boy, was resident on Blinkbonnie farm, in Eckford parish; where the farmer, who was his uncle, would sometimes set him to supervise turnip-shawing. Instead of attending to his task, the young jackanapes would be busy with a pencil, endeavouring to catch and to reproduce, in black and white, the quaint contours and physiognomies of the field-labourers. At such times his uncle would steal unperceived behind him, and recall his wandering attention by means of buffets administered with a turnip-shaw. By hook or by crook, however, the lad overcame opposition, and won his way to the studios of Paris. This must have been about the year 1831, for in Paris he met with Thackeray, then also an art-student,* with whom he became intimate. "He had a notion of eendividuaality," he would say in after-life, when appraising Pendennis's artistic (not his literary) faculty; and he would tell an anecdote (I know not if biographers bear it out) of how the distinguished novelist had made his first hit in letters with a description of a public execution, published I fancy in *Fraser's Magazine*.

Returning to his native county, Frain established

* Thackeray, *English Men of Letters' Series*, p. 7.

himself at Kelso, which continued to be his home till he was far advanced in years and sunken in bodily infirmity. There his lot was a pleasant one; for he was liberally patronised by the neighbouring county families and others, whose portraits he painted, and in whose houses he was a welcome guest. A bachelor much in request at dinner parties, he united with manners of an old-school courtliness a gift for anecdote and character drawing which was scarcely less remarkable than his more essential gift of catching likenesses with the pencil. He could be pungent, too, if he chose; and to do him justice, he *did* choose. But perhaps this life was somewhat too easy and agreeable to be favourable to artistic development, and the consequence was that he fell into that pit-fall of the artist who is less than strenuous: he could not satisfy himself with his own work. And so he would sometimes keep a picture for years in his studio, botching at without improving it. Then—whether owing to incipient failure of the visual organs (which in the end were grievously affected) or to lack of any vital artistic sympathy or stimulus in the world in which he lived—his powers began early to deteriorate. I have seen portraits and sketches of his which were in one word *living*; and therefore as art-work beautiful. One of these was a family group, representing an old blind man being read to by a young man. The models were an uncle and a brother of his own, and on this picture he had manifestly spared no pains. Another good example of his work was the strong characteristic portrait of an old Tweedside fisherman, Robert Kerss, alias Rob o' the Trows; others were portraits of Lord Marjoribanks of Ladykirk, and of Robert Elliott, Esq., of Clifton Park. But for the most part I fear that Frain's sitters were indifferent to artistic quality in his work, and he ended by turning out wooden and staring likenesses in mere complaisant supply of a demand, (Either his character or his genius was not

strong enough to enable him to impose his own views on his public.) His later years were clouded by money-troubles, arising, I believe, from no fault of his own, as well as by much physical suffering. But his geniality of disposition did not desert him under the strain: to the last he never lost the power of rallying to a friendly visit, and mustering his cheerfulness for the occasion. One may perhaps sum up his life-work by saying that he portrayed the notables of a neighbourhood, painting them—if not always as well as he might and could have done—at least as well as the taste of the time and place required. In this age of centralization, artists occupying his peculiar position—depending, that is, upon the patronage of a single country district; in request in the countryside whilst unknown in the capital—are surely things of the past. And there is room in the interests of art to regret that it is so.

ANDREW CURRIE.

Andrew Currie, of Darnick, the local self-taught sculptor, next claims our attention. As Frain claimed French blood, so Currie, to judge from his appearance, had probably a strain of the gipsy. That he belonged to the order of the peasant genius admits of no doubt whatever. Starting in life as a wheelwright at Earlston, he so developed the shaping faculty that was in him as to attract the attention of a gentleman of the neighbourhood* by the cleverness of certain clay figures and bits of wood-carving which he exposed in his shop-window. He received a commission to carve a book-case, and from this humble beginning rose to executing figures for the niches of the Scott Monument in Edinburgh. His masterpiece, a work of unquestioned plastic inspiration,

* Mr Cotesworth, father of William Cotesworth, Esq., sometime of Cowdenknowes.

was the noble colossal statue of Bruce, which now embellishes the parade at Stirling. All that he did, however, commanded attention, wonder, admiration. But a simple, dreamy, unpractical nature prevented his making the most of his talent and opportunities. Perhaps his character rather gains than loses from this defect.

In any case, I may quote as an instance of what I mean that, when the design for the Byron Memorial was thrown open to public competition, he declined to enter for it, alleging as his reason that he "*did not care much about the man!*" And no one who knew anything of Currie personally will suspect him of affectation. It was very different when he had a task which appealed to him, such as the carving of figures to represent the characters in the Waverley Novels. Nothing could then exceed his keenness; for instance, I have been told that he took great pains to make the acquaintance of a descendant of "Edie Ochiltree," for the express purpose of studying the family features. He warmly loved the Border Country and all connected with it; and a lady who knew him intimately has assured me of her belief that he would rather have executed work for Abbotsford than for Westminster Abbey itself! His life was passed in a world of his own, above the range of ordinary mortals, and doubtless he failed to attain to those conditions under which his genius might have grown to its full stature. His wife, who in other respects was an excellent helpmeet to him, would sometimes thank the Lord that none of their children had inherited anything of his talent.

One more record of neglected artistic genius, and I shall trespass no longer on your indulgence. For time does not permit me to touch on the musicians of the Border Country—the local composers of dance and ballad music—though of these I possess a fair catalogue.

T. S. GOOD.

To proceed, then. Anyone who has tried his hand at sketching from nature will probably admit that this good town of Berwick-on-Tweed—in which I have the honour of addressing you—contains much that is tempting to the artist. Picturesque in itself when viewed as a whole, it comprises, within the circuit of its walls, architectural perspectives and old-world nooks and corners which would have appealed, I think, to a Van der Heyden or a Pieter de Hooghe. Well, Berwick has had her painter—though he was not primarily a painter of architecture or of interiors—and I take it upon me to-day to impute it as a reproach to this ancient and historic town that, so far, she has done so little to honour him. For I believe it is beyond dispute that he is the most gifted of her sons born in modern times—a man of whom any town whatever might well be proud. And yet (if I may trust the results of my own enquiries, which have not been cursory or perfunctory) though it is less than thirty years since he died, he is here already almost forgotten. Sir Henry Taylor's famous line,

“The world knows nothing of its greatest men,”

is generally regarded as a brilliant paradox. But here, in Berwick, I fear it is no more than the mere literal statement of a fact. But surely we shall yet make some amends to our illustrious dead!

Thomas Sword Good was born in this town in 1789, and brought up as a house-painter. But he soon raised himself to the rank of a regular exhibitor in the Royal Academy of London. *That*, you may say, does not *of itself* imply any remarkable talent or proficiency in art. I am entirely of your opinion; but let me hasten to add that Good also received the eager recognition of the best among his contemporaries. Sir David Wilkie recognized him

as a friend ; Constable presented him with an impression of the plates from his works, endorsed with a gratifying inscription ; even the misanthropic Turner, when he came to Berwick, visited him. These names are passably good vouchers, I think. But, besides this, Good's works have been deemed worthy to adorn the walls of the National Gallery, the Tate Gallery, the South Kensington Museum, and the Fitzwilliam Museum at Cambridge.

Yet Berwick knows him not ! And yet his paintings are of a character to appeal most powerfully to all who have a "warm side" to this town and district ; for they epitomize the life, character, costume, of the said district, as these things were a century ago. In fact, what Meissonnier attempted by a process of reconstruction to effect for the 18th century in France, that by the far simpler and surer process of observation Good did for his own period in his own town. So, if we want to see what the local smugglers, fishermen, fiddlers, shepherds, egg-sellers, readers of news-letters, ancient dames and young hopefuls of our great-great-grandfathers' days were like, and what they wore, it is to Good's pictures that we must turn.

Sometimes, as in the admirable picture of "A Lesson in Punctuality," in the possession of Mrs Smith of this town, he gives us an actual portrait of a local celebrity ; and I believe that, were the facts known to us, we should find that this was a common practice with him. As for his technique, it has won the admiration and respect of artists. The figures in his pictures are set before us to the life, deftly and cleanly painted, with a pleasant feeling for colour. They also frequently exhibit a peculiar beauty in the lighting, to which Mr James Wallace of the Art School in this town has drawn my attention, and which he ascribes to the employment by the artist of *cross lights*. In his methods, as distinct from his subjects, Good comes nearer, perhaps, to Metsu or to

Wilkie, at his best, than to Meissonnier, to whom I have compared him.

It now only remains for me to correct a mistaken impression regarding the artist's life, and I close this voluminous scroll. If there are any ladies or gentlemen present who have attempted to study Good's career, they must, I think, have been surprised by this extraordinary fact:—that, though he lived on until 1872, from the year 1833, when he was in the prime of his powers, he ceased to work as an artist. The reasons hitherto assigned for this puzzling course on his part have been, first, the lack of appreciation shown by the public for his work; secondly, the fact that in a pecuniary sense he had from other sources become independent. Now I think that either of these reasons would have been derogatory, if not to the man, at least to the artist. But it so happens that neither of these reasons is the true one; for I have the best authority for stating that his retirement—which all who care for art, and especially all who care for Border art, have the deepest reason to deplore—was due solely to the state of his health. He was a sufferer in fact from head-pains, which must necessarily have been aggravated by application to his art: hence his abandonment of it.

From 1833 onward, he lived a somewhat sequestered life in his house on the Quay Walls, giving much of his time to his favourite pursuit of boat-sailing, which he would practise in a small centre-board boat of his own, in company of a superannuated tar. He is described, by one who knew him well, as a man of amiable disposition and exemplary life, given to acts of unostentatious charity, and acknowledging spiritual benefit received from the Wesleyan connection, to which at his death I believe he bequeathed money. Dying in the eighty-third year of his age, he seems already to have survived his reputation; for the obituary notice in the local newspaper is of the scantiest, least appreciative, kind. Contrast

the honour vouchsafed to him here with that accorded just across the Border to his elder contemporary, Thomas Bewick—or even to the latter's pupil, Luke Clennell—and I think and hope you will agree with me that we have a debt to make up to the memory of Thomas Sword Good.

Reports of the Meetings of the Berwickshire Naturalists' Club for 1901.

VISIT TO HEXHAM AND CHOLLERFORD, FOR THE ROMAN WALL
AND MILITARY STATION OF CILURNUM AT CHESTERS,
THURSDAY, MAY 23RD 1901.

Present:—Sir George B. Douglas, Springwood Park, Kelso, President; Mr G. G. Butler, Ewart Park, Wooler, Editing Secretary; Colonel David Milne Home, Caldra, Duns, Organizing Secretary, who was accompanied by his daughter, Miss M. Milne Home; Mr Robert Blair, F.S.A., South Shields; Rev. W. E. Bolland, Embleton; Mr William B. Boyd, Melrose; Mr Thomas Craig Brown, F.S.A., Selkirk; Dr David Cahill; Mr Cochrane, Galashiels; Hon. and Rev. William Ellis, Bothal; Mr James Ferguson, Alnwick; Mr George Fortune, Duns; Mr J. P. Gibson, Hexham; Mr A. Giles, Edinburgh; Mr T. Graham, Alnwick; Rev. Joseph Hunter, Cockburnspath; Captain and Mrs Fullarton James, Morpeth; Mr W. Laidlaw, Jedburgh; Mr William Little, Galashiels; Mr G. F. McNee, Edinburgh; Mr Maddan, Berwick; Mr C. E. Moore, Alnwick; Mr J. Lesslie Newbigin, Alnwick; Captain F. M. Norman, R.N., Berwick; Mr C. E. Purvis, Alnwick; Mr R. Richardson, F.R.S.E., Edinburgh; Rev. Evan Rutter, Berwick; Mr T. B. Short, Berwick; Rev. Harold J. Smith, Hexham; Mr and Mrs Thew, Warkworth; Mr James Veitch and Mrs Veitch, Jedburgh; Mr D. McB. Watson, Hawick; Mr William Weatherhead, Berwick; Mr Walter Weston, Alnwick; Mr and Mrs H. J. Willyams, Alnwick; Rev. Canon Wilsden, Wooler; Rev. Beverley Wilson, Brough, Yorkshire; Mr Cuthbert Wilson; Mr W. E. Wilson, Hawick; Mr A. R. Yeoman, Newcastle, and friends.

This, the first meeting of the year, was marked by very fine warm weather, anticipating summer, and by an unusually large concourse of members of the Club, from far and near. The centres on which they converged, either by morning train or on the night before, were chiefly two, Chollerford and Hexham, the former centre being close to the Club's first objective, namely, the Roman Station at Chesters; the

latter to the concluding work of the day at Hexham Abbey. Amongst the overnight contingent at Chollerford, with its graceful bridge over North Tyne, were Mr William Boyd and Captain Norman, who devoted their time to the study of local botany, and on Wednesday evening, upon the west side of the river, found *Arum maculatum* and *Galium mollugo* (or Great Hedge Bedstraw), and a sweet smelling woodruff, all, according to Mr Boyd, *limestone plants*. They also saw in a hedge row several trees of *Viburnum lantana*, which Captain Norman considers may have been artificially placed where they were seen, for although an indigenous British tree, it is chiefly in the south of England that it grows. Its leaves are "scurfy," and its flower is a fine white umbel. Among the wild plants noticed on this and the following day, during the excursion, Captain Norman reports the following:—

Myrrhis odorata, Sweet Cicely.
Polygonum bistorta, Bistort.
Arum maculatum, Lords and Ladies.
Sisymbrium thalianum, Thale-cress.
Galium Mollugo, Great Hedge Bedstraw.
Carduus heterophyllus, Melancholy Thistle.
Cardamine amara, Large flowered, Bitter-cress.
Plantago media, Hoary Plantain.
Betonica officinalis, Wood Betony.
Carex paludosa, Lesser Common Sedge.

And in hedges:—

Viburnum Lantana, Wayfaring Tree.
Prunus Padus, Bird Cherry.

Also *Erinus Alpinus*, plentifully on the walls at Chesters.

In a wood near Hexham a patch of Hellebore was observed, which had evidently been planted. It was, however, too early in the year for much botany work to be done.

Among *birds*, the three following were heard:—Redstart, Garden Warbler, and Willow Wren.

The larger contingent, from Hexham, drove at early morning in open carriages along the east side of North Tyne, attended on their road by cool air, sunshine, and fine dust. Their

journey took them, at varying levels and gradients, past farms and stone walls and spreading trees, until, some little way before reaching the hamlet of Wall, they entered what promises one day to be a fine avenue of lime trees, which are planted on both sides of the road for nearly a mile; and it was noted that amongst the woodlands generally the oak was slightly in advance, with its early foliage, of the ash. A small foretaste of the Roman Wall was visible on the right hand or east side of the road, before reaching Chollerford, at the lower end of a plantation dividing two fields which abut upon the road.

On arriving at Chesters, at noon, the united party was exhorted by Colonel Milne Home to follow the guidance of Mr J. P. Gibson of Hexham, with the proviso that they should all emerge finally at the gateway of Chesters, at a quarter past two, in order to continue their journey westwards along the line of the Roman Wall.

After a walk of a few hundred yards over the turf of the park, Mr Gibson, in undertaking to show the extent and character of the Ancient Camp of Cilurnum, for the following account of which the Club are indebted to him, first called their attention to one of its six gateways. Of these gateways he explained that the Camp, a permanent Military Station, possessed one on its north and one on its south wall, and two each upon its eastern and western walls; and that which was now shown was the northern of the latter pair. He pointed out that this gateway opened on the northern side of the Roman Wall, which runs east and west, and not south of the Wall as represented in Warburton's plan, reproduced in Bruce's "Roman Wall," 1851, p. 44.

He mentioned Julius Cæsar's account of a Spanish Cavalry ala, which, in the Gallic War, issued from the sides of the camp and surprised and defeated the enemy by attacking them in *flank*; such a manœuvre would, at Cilurnum, have been impracticable if the Roman Wall were north of the side gateways. As the garrison of Cilurnum was an early raised contingent of auxiliary Spanish cavalry, the second ala of Asturians, it seemed only fair to conclude that they carried out at Cilurnum lessons learnt under the command of Cæsar himself during his campaigns in Gaul. Indications were

found in some exploratory trenches, cut by Mr Havrefield in September 1900, of an extension of the Camp northwards by the addition of the portion at present lying north of the line of the WALL, which enabled two extra side gateways to be made outside the line of the WALL. In the northern guard chamber of this gateway are the remains of an oven, inserted during the latter part of the Roman occupation. Then Mr Gibson pointed out the general arrangements of the gateway, which is one typical of those of the Camps on the line of the Wall; in the gateway were laid many bones of oxen, pigs, stags, and sheep, and tusks of wild boars found from time to time.

Next he led us to the second (smaller) gateway on the western flank of the Camp, south of the former, and *within*—i.e. to south of—the Roman Wall. Its corresponding fellow gateway, on the eastern flank, is also preserved uncovered. These gateways are much smaller than those outside of the WALL.

Next he showed us the stone-built angle of the Camp, with a square turret rounded on the face outside the Camp, constituting its S.W. corner. On these angle turrets he believes that *ballistæ* were stationed; as at the north-west angle turret, excavated at Aesica in 1895, a heap of rounded stones was found, weighing about two pounds each, suitable for use in a small ballista.

Turning eastward, along the southern margin of the Camp, we saw one of the intermediate towers defending the wall, between the angle towers and the central gateway.

We next visited the central gateway of the southern side of the Camp, which, like other excavated portions, is now enclosed by a fence.

Here are shown evidences of two occupations of the Camp, at some considerable interval of time, in the shape of two floor levels, having nearly two feet vertical difference between them, two gate-levels, and two sets of pivot holes; those of the latter occupation being about eighteen inches above those of the earlier period. Specimens of old Roman pottery were here distributed on the stones for our inspection—parts of Amphoræ, Samian ware (made in Gaul and Italy), grey ware (made at Upchurch, in Kent, where there was in former days a large Roman factory), and numerous millstones, one



Villa outside the Roman Military Station, Cilurnum.

from Andernach on the Rhine, imported into Britain by the Romans. The gates here appear to have been of wood, bound with iron; and here a stone was found in which the pivot at the top of the gate has been inserted.

Passing another tower for the protection of the space between this southern gateway and the angle tower, we reached the S.E. angle of the Camp, where the mortar is clearly seen, rubble concrete having been employed to fill the space between the stone faces of this tower, as is usual in the construction of the great Wall and the Camps.

Next we visited the eastern, "inner," gateway—*i.e.* south of the Roman Wall—corresponding to that before passed. In this the later work has been generally cleared away, but there are indications of *three* levels of occupation.

Then was seen the site of a large villa outside the Camp, and between it and the road, but within the Roman Wall. It has a courtyard forty-five feet long by thirty feet wide, along the western side of which is a row of seven arched recesses in the thickness of the wall (Plate I.),* into which they penetrate to a depth of eighteen inches. They are two feet wide and three feet high to the crown of the arched stone, which forms the top of each recess. The use of these recesses is unknown, but numberless guesses have been made, among others that they were niches for statues, for holding the clothes of bathers, or for the protection of bee-hives. It contains ten rooms, most of which have been heated by hypocausts; one of these rooms has an apsidal end, in the centre of which is the lower portion of a window, with splayed jambs, which appears to have been glazed, as many pieces of window slab were found below it. There does not seem to be any indication as to the way in which the casement was fastened to the stonework. The furnace for heating the hypocausts was at the N.W. corner of the block (Plate II.),* and in the rooms adjoining it the arrangements of the hypocausts and of the wall flues leading to the upper storey remain in good condition. At the western bank of the Tyne, where the wall approached it, were seen the lower courses of the land abutment of a Roman bridge, crossing the river, upon three stone piers, and having

* From a photograph taken by Miss M. Milne Home.

exceedingly massive land abutments on each bank. Returning, by the line of the Wall, to the eastern gateway of the Camp, a cutting was passed showing the great Wall perfect to a height of about four feet and nearly eight feet wide.

The eastern gateway was similar in its masonry and its general design to the opposite western gateway. Adjoining it, to the north, was a large block of buildings recently excavated, which appears to have been barracks and officers' quarters, the main street in them having had a covered colonnade running down each side of it. When first excavated one of the rooms in the officers' quarters contained a fire-place of stone, which, unfortunately, was not preserved. The horses were probably stabled in buildings constructed like the early British dwellings of "wattle and dab"—a method of construction which survived until quite recent times.

The pretorium was the last portion of the Camp visited, and its cloister-like courtyard, its great central chamber, with its five inner chambers, one of which has an enclosed vaulted chamber below the ground level, that probably held the treasure chest of the garrison, were all examined with interest. After leaving the Camp the Museum occupied the remainder of the time. Among many attractive objects were noted a recently found slab, recording the bringing of water to the Camp by the second cohort of Astures, under the command of Ulpius Marcellus, Augustan legate and pro-pretor; and some stone figures brought from the Mithraic cave, excavated at Borcovicus in 1898, representing Tibicenes (pipe-players) cross-legged as usual; but, possibly, the most interesting group of objects were those found in the votive well, dedicated to the goddess Coventina, which was discovered at Procolitia (Carrawburgh) in 1878, in which twenty-six altars, many of which were inscribed, various other inscribed stones and tablets, rings and various metal ornaments, and an enormous deposit of about twenty thousand coins of brass and silver, with five of gold, besides other objects too numerous to recount, go to make up a Roman hoard which is probably the finest ever found in Britain.

At lunch time some of the members were kindly entertained by Mrs Clayton, in the house of Chesters; others of the large party enjoyed a meal "al fresco" near the Museum



Hypocaust Furnace, Cilurnum.



Hexham, and the Abbey. [The streets were decorated on the occasion of the return from South Africa of some Hexham soldiers, which happened to be the day of the Berwickshire Naturalists' visit, May 23rd 1901.]



of Antiquities. All then, after luncheon, proceeded westwards to visit the Roman Wall: the road on which they drove (Colonel Wade's military road) passed between the Vallum and the Wall, the latter being to the north of them, and well displayed in several places.

Beyond a long stretch of the Vallum, cut through various rock strata, the top of Limestone Bank was reached, and the party left their conveyances to examine the moor in which the ditches of the Murus and Vallum were cut through a cap of basaltic trap rock (DIORITE) which covers the top of the hill. This is the most northerly point which the Wall reaches, and it commands a beautiful panoramic view of the North Tyne Valley with its hills beyond, Chipchase Castle being seen nestling among its moors in the distance. The ditches have been cut through the solid rock, of which numerous large masses, weighing many tons each, remain lying on the outer edges. In the ditch of the Murus a large block of whinstone is still left, showing, on its upper surface, five holes cut for the insertion of thin iron wedges used in splitting up the hard rock: in each case the Roman mason has cut his wedgehole correctly on the line of cleavage. After seeing the long stretches of the mounds and ditches of the Vallum, leading away westward to Procolitia, the party returned by Fourstones to Hexham.

Here they had a short time for visiting the Abbey and the crypt before separating to their various destinations. (Plate III.—Hexham.)*

An interesting fact in regard to the botany of this excursion is that the *Erinus Alpinus* (a Swiss plant), the *Corydalis lutea*, and a Saxifrage, found amongst the Roman ruins, are all introduced plants, not indigenous to this country, but easily propagated.

The finding of one of these three plants upon the Roman Wall—namely, the *Corydalis lutea*, one of the fumitories which is a native of the Roman Campagna—had suggested to our President, Sir George Douglas, a brief poem, which he permits to be quoted here, and which members who have not already seen it will be glad to meet with now.

* From a photograph taken by Miss M. Milne Home.

"ON THE ROMAN WALL."

Fair, simply-blowing floweret wild,
Small, short-lived star of earth,
Thou, like some gipsy-stolen child,
Art here of alien birth—

(Here, where the grassy mound I trace,
Green foss and ruin'd wall,
That tells me of a conquering race
And of the conqueror's fall,)

For, musing here on Hadrian's dyke,
How far away seems Rome!
And I, to find elsewhere thy like,
Must seek it there, at home.

How camest thou thence? From that bright land
March'd legions in array;
But whose the soft and gentle hand
That brought the flower away?

Sick of the time and all its fears
Did some Italian maid,
Watering thee oft with secret tears,
Nurse thee through sun and shade?

Yet—like the daughter of romance,
Who in despite of fate
Raises the song and leads the dance
Beside a gipsy mate—

Thy bloom her scent and honey yields,
And thou with spring dost blow—
A Roman flower in English fields—
As bright as long ago!

Till, as one dreams, and idly thinks
On wars and conquests vain,
A simple pastoral garland links
Earth's mightiest nations twain.*

*"Poems of a Country Gentleman," by Sir George B. Douglas,
Bart., p. 44.

BASS ROCK.

THE SECOND MEETING of the year, on Wednesday, 19th June, made the Bass Rock its chief object, but on the way, coming and going, visits were paid to other interesting places in East Lothian.

The members and friends of members present were:—Sir George B. Douglas, Bart., Springwood Park, Kelso, President; Sir Archibald Buchan-Hepburn, Bart., Smeaton-Hepburn, Prestonkirk; Colonel David Milne Home, Organizing Secretary, Mrs Milne Home, and Miss J. M. Milne Home, Caldra, Duns; Mr G. G. Butler, Ewart Park, Wooler, Editing Secretary; Mr G. Bolam, F.Z.S., Berwick, Treasurer; Mr R. Blair, F.S.A., South Shields; Mr J. Bowhill, Edinburgh; Mr W. B. Boyd, Faldonside; Mr T. Craig Brown, Woodburn, Selkirk; Mr W. K. Brown; Colonel Brown, Longformacus; Miss Helen Brown, Longformacus; Mr James Hewat Craw, Berwick; Captain John Campbell, Edinburgh; Mr T. Darling, Berwick; Mr Dent, Newcastle; Mr A. H. Evans, F.Z.S., Cambridge; Captain Forbes, R.N., Miss Forbes, and Miss Marshall, Berwick; Rev. J. A. Findlay, Edinburgh; Rev. Hugh Fleming, Berwick; Mr George Fortune, Duns; Mr J. G. Goodchild, F.G.S., Edinburgh; Mr Arthur Giles, Edinburgh; Mr T. Greig, Roxburgh; Mr G. Henderson and Mrs Henderson, Upper Keith; Captain Milne Home; Mr A. C. Milne Home; Mr James Hood, Cockburnspath; Rev. Joseph Hunter, Cockburnspath; Rev. R. C. Inglis, Berwick; Captain James, Chief Constable of Northumberland, and Mrs James; Mr Hugh M. Leadbetter, and one friend, Earlston; Rev. Dr Leishman, D.D., Edinburgh; Rev. James Leishman, Linton; Mr Little, Galashiels; Major J. F. Macpherson, Edinburgh; Misses Marrow; Mr James Millar, Duns; Mr Morton, Sunder-

land; Rev. David Paul, LL.D., and Master Paul, Edinburgh; Mr Campbell Renton, Mordington; Mr A. Riddell, Yeavinger; Mr Romanes, Edinburgh; Mr F. E. Rutherford, Hawick; Mr H. Rutherford, Roxburgh; Mr Stephen Sanderson, Berwick; Mr W. J. Short; Mr David Simpson, London; Mr R. H. Simpson, Alnwick; Mr J. A. Somervail, Kelso; Rev. George Sprott, D.D., North Berwick; Lieut-General John Sprot, Mrs, and Miss Sprot, Lilliesleaf; Mr J. Turnbull, Galashiels; Mr Christopher Trennard; Mr D. Veitch, and Miss Veitch, Duns; Mr George Veitch, and one friend, Edinburgh; Rev. Canon Walker, Newcastle; Mr E. G. Wheler, and two friends, Alnwick; Mr E. Willoby, and two friends, Berwick; Mr H. J. Willyams, Alnwick; Mr Joseph Wilson, and Miss Wilson, Duns.

Most of the naturalists, having assembled at East Linton, had before them a drive of ten or twelve miles before reaching that part of the Haddington coast which immediately faces the Bass Rock, but this journey was pleasantly interrupted, at an early stage, by a halt at Smeaton-Hepburn, the seat of Sir Archibald Buchan-Hepburn, where he, and some other members who had spent the earlier morning with him, joined our main body, and all, under the guidance of the owner, strolled through the gardens and plantations near the house, and round the lake, and saw here a good example of what arboriculture may do, when wisely managed, for the adornment of a country seat. The weather was not altogether kind, and made a great contrast with that which marked in genial fashion the first meeting of the year; but though dull enough and threatening now, it did not show its worst complexion until later in the day. Reinforced now by Sir Archibald and his guests, we moved on towards the Firth of Forth in the direction of North Berwick, passing Balgone on our left some distance beyond Smeaton-Hepburn, and as we drove along the country road the walls at each side and on the land around gave us a glimpse of the geology of the district. Some were built of sandstone, quarried from the Lower Carboniferous strata of the neighbourhood, and others were of black whinstone, a rock of igneous origin; and Mr Goodchild, our geological mentor, pointed out a ravine, in one of the fields

near the roadside, whose scarped face revealed a layer of Andesite lava. Soon after being thus reminded of ancient volcanic fires, we came in full view of North Berwick Law, itself a volcanic hill, looking for all the world like another Bass Rock, planted a short way inland, rearing its head higher than its half-drowned brother, and having green-clad lower slopes in place of steep cliff-sides battered by the salt Firth. Both "Law" and "Bass" are identical in mode of origin, each being in truth a "volcanic neck" consisting of a hard trachyte, representing the solidified core in a volcanic vent, whose crater, cone, and flanks have been denuded away; the last uprising lava having here consolidated, and with adamantine endurance resisted later eons of denuding agencies. Other Scottish hills owing their origin to hard igneous nuclei, which have resisted denudation, are Traprain and Largo Law, the Lomonds of Fife, the Castle Hill of Edinburgh, Arthur's Seat, Stirling Hill, and Ailsa Craig.

Arrived at length at Canty Bay, and descending a steep grassy slope to the shore, we began the embarkation. Fishing boats were few and small, and naturalists many, and even with the friendly arrival of Mr Dent's steamer, several voyages to and fro, at intervals, were necessitated before the whole company were upon the island. Those who were last to leave the Bay had an opportunity of studying, with Mr Goodchild's aid, the foreshore exposed by the ebbing tide, and this compensated for their late arrival at the Bass Rock. The full substance of what he intended to say is printed as an Appendix here [p. 41], but was not, in its complete form, communicated to the Club, owing to lack of time after our return from the Rock. However, while waiting for boats, we had his verbal explanation of some of the geological features presented by this part of the coast. On the slab-like rocks of the shore we examined with him the junction of the intrusive Limburgite and the tuff, lavas which probably came from Arthur's Seat or from North Berwick Law, old volcanic necks which were once active volcanoes. The tuff is mixed with other volcanic ejected matter, and includes within itself lapilli and bombs, while the Limburgite closely resembles the composition of stony meteorites. An examination was made also

of some well-formed marine pot-holes, due to the gyrating motion of the tidal water set up where it meets the joints in the rocks. Under the *old* Canty Bay hotel were seen the stratified aqueous rocks of Carboniferous age.

All having finally reached the Bass Rock by aid of sail and oar, and having landed, in some cases with more energy than dignity, upon the south-eastern margin of the island, observation, exposition, and comment were directed to bird-life and botany on the one hand, and to the history of human occupation on the other.

The birds we saw were the following nine species—Gannet, Lesser Black-backed Gull, Herring Gull, Kittiwake, Guillemot, Razor-bill, Puffin, Jackdaw, Rock Pipet.*

Of these birds the Solan Goose or Gannet of course drew most attention, as being specially characteristic of the Bass, as his name *Sula Bassana* implies, though Ailsa Craig is also a favoured resort of his. The custodian of the Rock gave the number of Gannets as 100,000; but very divergent estimates have, at different periods, been made of the number which annually resort here for breeding. In 1847 Dr John Fleming, of Edinburgh, put the number at 5,000; to-day two estimates were given, from inspection, so far as the eye could judge the number of this perpetually moving and shifting crowd, at 12,000 pairs and 6,000 pairs respectively; a practised ornithologist being responsible for the latter estimate. A good station for watching the manifold evolutions of the army of sea-fowl was found at a high spot on the south-western end of the island. [Plates IV., V., and VI.] Here, from a small grass-covered platform, we looked down sheer cliffs—alive with birds alighting, seated, or taking wing—upon the sea beneath, which at this spot has found an opening in the cliff's base. This leads to a natural tunnel, passable at low tide, which penetrates the Bass, and will one day sunder it along a line of weakness in the rock, the chasm passing under the place where a ruined chapel now stands.

* Dr. Fleming, in 1847, enumerates others—Cormorant (Common and Shag), Eider Duck, Peregrine Falcon, and Turtle Dove (the latter probably accidental.) "The Bass Rock," John Greig & Son, p. 105.



Rottenheugh on the Bass Rock. Breeding place of the Gannet.





Gannets on the Bass Rock Precipice.





Gannets on the Wing.



The Egg in the Nest.



The following description by Hugh Miller is interesting, and may be quoted here, though the Club, as a body, had not the opportunity of visiting this peculiar feature of the Rock.

The Tunnel through the Bass.

"A fine natural niche, a full hundred feet in height—such a one, perhaps, as that which Wordsworth apostrophises in his Sonnets on the River Duddon—forms the opening of the cavern, the roof bristling high overhead with minute tufts of a beautiful rock-fern, the basement course, if I may so speak, roughened with brown algæ, and having the dark green sea for its floor. But the cavern beyond seems scarce worthy of such a gateway; the roof appears from this point to close in upon it; and a projection from one of the sides completely shuts up its long vista to the sea and the daylight on the other side of the island. The height of this tunnel of nature's forming is about thirty feet throughout; its length about a hundred and seventy yards. Not far from its western opening there occurs a beach of gravel, which, save when the waves run high during the flood of spring tides, is rarely covered. Its middle space contains a large pool, filled, even at low ebb, with from three to four feet of water; and an accumulation of rude boulders occupies the remaining portion of its length, a little within the eastern entrance. It is a dark and dreary recess, full of chill airs and dropping damps—such a cavern as that into which the famous Sinbad the Sailor was lowered, at the command of his dear friend the king, when he had to be buried alive, agreeably to the courtesy of the country."—[Hugh Miller, "Geology of the Bass," p. 85.]

For those who stationed themselves on the grassy platform at the cliffs' edge, the multitude of wings of restless fowl, going and returning in wide circuits—gannets, gulls and guillemots with their varied flight, the smaller puffins, and the razor-bills on the shingle beneath—gave an air of bustle and excitement to the place. The words of Hugh Miller

give a good picture of this, and are well worth quoting here:—"I was not sufficiently aware," he says (writing sixty years ago), "during my previous visits, how very much the birds add to the rock scenery of the island. The gannet measures from wing-tip to wing-tip full six feet; the great black gull, five; the blue, or herring gull, about four feet nine inches; and flying at all heights along the precipices—this one so immediately overhead that its shadow darkens half the yawl below—that other well-nigh 400 feet in the air—they were by their gradations of size (when seen from the boat) as objects to measure the altitudes by. And these altitudes appear considerably less when they are away."

We, looking down, had the same scale-indicators as Hugh Miller had, looking up.

The plates which illustrate the gannet we owe to Mr William Green of Berwick, who took in person, on the Bass Rock, the original photographs in 1882, and has been good enough to put them at the disposal of the Club, with the following remark:—

"It may be interesting to know that the egg shown in Plate VI. was *chipping* when photographed on 8th June; and the young bird in Plate VII. was *the produce of that egg*, photographed on 27th July: the age of this bird was therefore seven weeks."

The name Solan Goose is not altogether happy, inasmuch as the bird is not a goose; and, moreover, the word "Solan" is of doubtful meaning. Three etymologies may be quoted for it, (1) Greek, (2) Icelandic, (3) geographical: the first connects it with the Greek verb *sulao*, I plunder, because of the predatory nature of the bird; the second gives *sula* as the Icelandic name of the gannet (as it is the Latin name given to it in Natural History books); the third traces it through the form Soland, as it is sometimes spelt, to *Solent*, and goes back to a time when these birds crowded the waters of the Hampshire coast.

The name "Gannet" is more used by Cornish and Irish fishermen, it is said, than "Solan Goose"; and this name is traced from the Anglo-Saxon "ganot." Here again we come perilously near to the German "gans" and our own



The Gannet Sitting.



The Fledgling Hatched.



"goose."* John, Duke of Lauderdale, was Governor of the Bass in 1674, and received some £70 annually from the sale of what are called Sollen-Geese in his accountant's books.† Whatever his name, the young bird on first being hatched is bluish black, but in a week's time is covered with white down. As it grows older it alters its colouring in a surprising way; at one year old it is dark slaty grey, nearly black, speckled with small white triangular marks; at two years it becomes chiefly white, but retains the black-grey tint on wings and tail; at three years the white plumage has further increased, the black being confined to the larger scapularies in blotches, and to the tertiaries; while at four years all the full white plumage is obtained, only the wing tips remaining a dark brown. Except in shape, the one-year-old and four-year-old are very unlike, and are hardly to be recognised as the same bird. Though he takes four years to reach feathered maturity, the Solan apparently lives long to enjoy his coat of venerable white, for Selby gives 48 years as the age of some birds which were particularly observed.

After the ornithology, the evidence of human occupation of the Bass occupied us, and we inspected the ruined fortress-prison and chapel, and also the modern light-house works which have been recently begun. The earlier human history is a record of life passed under grim conditions. "It is," to quote the words of our President, "as a 'Patmos of many godly men'—the background to struggles and triumphs of the indomitable mind sustained and fortified not by applause, but by religion and the consciousness of right—that the Rock possesses associations for the true-born Scot, which may well serve to move and thrill him. For on this gloomy islet, in the bad years 1667-87, no less than nine and thirty staunch Presbyterians suffered imprisonment for conscience' sake; the martyrs of the Bass, as they have been reverently called, the word being employed in its original sense of 'witness,'

* The older Natural History Books give choice of at least three Latin versions of the gannet, viz.—*Pelecanus bassanus*, *Sula alba*, and *Sula bassana*, the last being now adopted as correct.

† Proceedings of the B.N.C., Vol. vii., p. 90.

rather than in its more usual derivative meaning. The periods of their confinement varied from two or three months to, in one instance—that of the Reverend Alexander Forrester, of St. Mungo—as much as ten long years.

“The fortress of the Bass, the prison of the martyrs, is now roofless, ruinous. But we have been informed that in their perfect state the windows of its cells were contrived, with refinement of cruelty, so as to allow of no out-look abroad. A chapel, likewise dilapidated, serves by association of ideas to carry our thoughts back to St. Baldred, the patron of the island, who is believed to have died in 606. Whoever may have been responsible for the legends of Baldred’s miracles was animated surely by a spirit of mischief, or of drollery, rather than of piety. Of these legends there is one that tells how a certain neighbouring rock proved a source of disaster to shipping in the fair-way. But when the saint took his stand upon its summit, straightway the rock itself became endowed with the properties of a ship, being borne by wind and tide to a more convenient station, where it is now shown as ‘St. Baldred’s Cock-boat.’ The incident presents itself to the mental eye as a fit subject for the pencil of some fantastic artist of the school of the late Richard Doyle. More monstrous even than this, however, is the posthumous miracle by which, when three parishes had quarrelled among themselves for possession of the saint’s remains, the saint contrived so to multiply his body that each parish secured a perfect specimen, and so became content. Such fables as these have their place rather in the Monkish *Gesta Romanorum* than in the *Lives of the saints*. Certainly they have nothing of that tender poetry which still casts a lingering radiance over miracles ascribed to St. Cuthbert somewhat later in the same century.”

Some members of the Club made their way over steep grass slopes to the summit of the Bass, to gain a wide view over the Firth of Forth, with its coasts and islands, and the ruins of Tantallon Castle on the near shore; this view, though less clear than it might have been in finer weather, was gloomily impressive. To the geological mind there came the

vision, well expressed by Ramsay, of this scene at the close of the glacial epoch. This geological vision he introduces thus—"Turning to the eastern side of Britain, we find that during the period of maximum glaciation, while all the Highland mountains were literally buried in ice, this great glacial sheet, partly flowing eastward, joined a vast ice-sheet coming westerly and southerly from Scandinavia. The evidence obtained in the Shetland Isles shows that the ice there crossed from the North Sea to the Atlantic. In another direction a thick sheet of the same Highland ice pressed southward into the valley of the Tay, where a low portion of the glacier passed eastward to the sea, while the remainder pressed up the slopes and across the summits of the Ochil Hills, and on to the valley of the Forth. There the ice found a vent for a further outflow to the east, at a time when the Bass Rock, Fidra Island, Inch Keith, Inch Colm, and all the other beautiful islands of the Firth of Forth, lay as mere *roches moutonnées*, buried so deep under glacier-ice that it overflowed the eastern part of the Lammermuirs and spread southward into Northumberland. Some of these islands still retain their ice-worn surfaces, while others, such as the Bass and Fidra, have become scarred and cliffy by the action of the weather and the sea."*

Returning to a lower level, in the direction of the landing place, members meet to compare notes, and the botanists display the results of their researches, the chief being the tree-mallow, *Lavatera arborea* (called after the Swiss Lavater), which has already been described and discussed, without mention, however, of the fine pink-red colour of the petals, by Dr Hardy, on p. 93 of Vol. VII. of our Proceedings.

In lamenting the disappearance from the Bass Rock of that noble bird, the peregrine falcon, Sir George Douglas remarks: "Nor is this process of extinction confined to varieties of animal life. Specimens of the red-flowering Mallow of the Bass (*Lavatera arborea*) are now offered for sale by the men engaged on the light-house works—a sure sign that a plant which was once abundant here is now becoming scarce. So that, unless some self-denial be exercised, it too is likely to

* Physical Geology of Great Britain, by Sir Andrew Ramsay, F.R.S.

disappear, as it is said already to have disappeared from other islets of the Firth. Let the writer be permitted to plead with visitors to preserve a natural curiosity in the place where nature has planted it. Another rare plant of the Rock is the wild beet-root. The commonest of the island flowers are varieties of the *Silene* or catchfly, which have literally overgrown it, lavishly bestowing their blooms of white or of rich pink wherever roothold was to be found."

Another plant, from Tantallon, which, in the course of the day's excursion, puzzled some of the members of the Club, has been identified by Captain Norman as *Lepidium latifolium*, broad-leaved pepper-crop, or pepper-wort, a specimen of which he obtained from the same spot fifteen years ago.

Amid gathering clouds and falling rain we embarked in succession, some in fishing boats, some on Mr Dent's steamer, to return to the shore. But—again to quote our President's words—"We must not take our leave of the Bass without referring to what was certainly the most stirring episode in its history, to wit, the siege which it sustained when held by a handful of daring adventurers for the deposed King James the Second. After the Revolution of 1689, certain of Claverhouse's officers were confined in the cells which had lately been vacated by the 'Martyrs.' Their guards were not numerous, and one day, when most of the latter were out of the prison, employed in unloading a coal vessel, the prisoners contrived to clap-to the gates so as to bar them out. This occurred in 1691, and for nearly three years from that time the Jacobite captives remained masters of the fortress. Doubtless they were materially indebted to the fact that the Government had its hands full elsewhere, and that at first it did not take their resistance very seriously. The possession of a good stock of ammunition was also in their favour, as was the difficulty of landing on the Rock. Still they must be credited with the display of much resourcefulness and determination. When their food supplies threatened to become exhausted, they recruited them by means of predatory incursions on the neighbouring coasts, and piratical attacks on passing vessels. In course of time, too, they managed to

apprise their friends in France of the adventure in which they were engaged, with the result that when an attempt was at last made to blockade the Rock, it was met by the appearance in the Firth of a French frigate, which dispersed Dutch William's vessels and landed provisions for the garrison. By degrees, however, the measures adopted by the Government began to produce their due effect. But the rebels were not yet at the end of their resources. When Commissioners landed on the island to treat with them, they contrived by a lavish distribution of the scanty remnant of their provisions, together with a cunning display of muskets, coats, and hats, to make their circumstances appear so much better than they really were, as to secure advantageous terms of capitulation. Thus the Bass Rock enjoyed the distinction of having held out longer for the Stuart Sovereign than any other place in his kingdom. Only one untoward incident marred this pleasant little interlude in history. It was the execution of a man named Trotter, who had befriended the rebels, with a view to terrorising the latter. This had been fixed to take place at a spot on the mainland, which was within sight of their stronghold. A shot from the Rock dispersed the multitude which had assembled for the occasion. But this did not prevent the execution from taking place elsewhere. In his novel of 'Catriona,' Stevenson made the Bass Rock the scene of a somewhat ineffective story of the supernatural. To novelists of his school the present writer ventures to recommend, as a promising foundation for romantic fiction, the siege of 1691-94. As we take our last look from the returning boat of the lonely bird-haunted islet, it rises forlorn and grey amid a grey world of cloud and rain, as when

'Thro' scudding drifts, the rainy Hyades
Vext the dim sea.'

Perhaps we could scarcely behold it under more characteristic conditions. And so we bid a fond farewell to a wild spot in nature which has witnessed its full share of saintly ecstasy, of stern, uncompromising religious zeal and fervour, and of

that romantic dash and gallantry which we love to associate with the lost cause of the Stuart Kings."

On landing we found that time did not permit of a general visit of the Club to Tantallon Castle, nor when we were gathered together for dinner in the Canty Bay Hotel, at 4 o'clock, were we able to profit by Mr Goodchild's interesting account of the geology of the Bass, which could not then be read "in extenso." Some went to catch their train from Linton Station at 5 p.m., and the remainder drove by a different route from the morning's, and in a rain that was now torrential, towards Smeaton-Hepburn; and one section stopped on the way, for a while, at Whitekirk Church. Here the parish minister, the Rev. Dr Waddell, kindly received them, and explained various points of archæology and historical interest connected with this church, and with the remains of the other two, Auldham and Tynninghame Churches, within his parish. They admired the architecture of the gateway and porch, and were interested by the curious unsymmetrical groining of the vaulted roof; and of other matters the minister gave the following account.

Note on Whitekirk Church.

By the Rev. Dr P. H. Waddell.

The church now represents three parishes, and is in the centre of the district which they originally occupied. The parish of Auldham was on the north, and that of Tynninghame on the south, with Whitekirk between them. These were all foundations of St. Baldred, and two of them claim his grave. There are ruins of an ecclesiastical building, commonly called a Priory, at Auldham, and distinct traces of a churchyard; but the parish and church there were not renewed after the Reformation. Of the church at Tynninghame two beautiful Norman arches and some other remains are still standing, and the church existed for worship until 1761. The history of the Tynninghame Church is perhaps the most interesting of the three, as we possess its session records from 1615; those

of Whitekirk begin much later, as several of the early volumes were lost long ago in a fire at the schoolmaster's house. There came from the church at Tynninghame many interesting relics: a Bible which used to be carried to and from the Bass in the Covenanting times; the Bell which announced a death in the parish, and was carried at the head of the burial procession; a Basin for baptism, with a boss in the centre for the laver to stand on; silver and pewter Communion plate, and leaden tokens more than 200 years old. The oak front to the Earl of Haddington's gallery here was also brought from his seat in Tynninghame Church.

Whitekirk was not the original name of the church. We know from a history of the church, which was found in the library of the Vatican at Rome, that the spot was originally called Fairknowe, and the church was dedicated to our Lady of Fairknowe; but at the Reformation, when, as this account says, it was given over to the preaching of heresy, the name was changed to Whitekirk. A few years ago, when restoring the south transept, I ventured to rededicate the window there to our Lady of Fairknowe and of the Holy Well. For it is a Holy Well church, and was first founded as a small shrine in 1295 by a Countess of Dunbar, as a thankoffering for the relief she received while in flight from Edward I., by drinking the water of the well. The shrine was plundered and burned in 1355 by sailors from the fleet of Edward III., and the present nave and tower date from the restoration of that time. Search has often been made for the well, but in vain. The reputation, however, of the well and the sacred traditions of the church made this place a frequent resort of pilgrims, and there is said to have been as many as 16,000 pilgrims in the year 1413. Among distinguished pilgrims in that century was Æneas Sylvius, in 1435, afterwards Pope Pius II., who walked all the way from Dunbar barefoot; later there came also the widow of James I. with her son. Until the Reformation there were pilgrims' houses standing near the church, but these were then destroyed. The building which still remains in the field, and which has many old pieces of masonry left in it, is said to have been the monks' Tithing-barn. The tower of the church, in which there were

two flats or stories, was in later days used as an alms-house for the casual poor. There does not seem, however, to be there or elsewhere in the church any squint for the use of the sick or outcast wanderers. You will see in the south-west pillar of the tower a small door to a chamber which might have been supposed to have been a squint, as it is six feet long and penetrates through the pillar into the wall beyond. The chamber, however, which was only discovered a few years ago, showed no sign of any communication with the outside, and was probably the Awmrey of the church when the east end was at the pillars of the tower, and the altar stood between them. The present Choir, the Vatican record tells us, was "added to" the western portion of the church in 1439; "all arched with stone, agreeable to the mode of Peter de Maine." The nave of the church has been badly knocked about and altered, for the roof was once the same height as that of the choir, as you will see from the marking of the water-table on the outside of the tower. At one time it was separated from the rest of the church by a stone and lime partition, and was for many years used as a school. When used as a school there was a door under the window at the west end, but this was built up when the law was passed for the erection of parish schools and schoolhouses in 1696.

The porch, which is a very pretty specimen of the 15th century, was added to the original building; but you will find traces of an original wooden porch inside the stone-work, and a niche for the Virgin's image. On the stone porch, as it now is, you will see the places where wooden dooks held the iron for the lamp in front of the image; and also on the right side the leaden plug to which the "jougs" were fixed.

In contrast with the gracefulness of the porch the rest of the building has a strong and massive appearance, with embattled tower and heavy buttresses. The little oriel window in the east wall relieves the weight of masonry, and the Bishop's coat of arms carved above it on the outside gives it some historical though undecipherable tradition. The glass in this window and in the south transept is by Kempe of

London; that in the west window, presented by the Earl of Haddington, is by Hardman of Birmingham. The groining in the centre of the church, under the tower, is, I believe, not altogether usual; the more common form being the plain barrel-vaulting. On the shield, in the centre of the groining, are carved two crosses, the Latin and the St. Andrew; whether that is what they are meant for, or whether it is a rough copy of the usual Greek initials of Christ's name, I cannot tell.

The restoration of the church took place about eighteen years ago, under the direction of Messrs Wardrop and Anderson, and everything was done to retain the dignity and simplicity of the ancient building.

After leaving Whitekirk the drive was resumed, with continued inclemency of weather, and took us by Binning wood, on the planting of which, two centuries ago, an ancestor of the present Lord Haddington bestowed much care, as will be seen from an interesting extract which Miss M. Milne Home has made from an early work on Forestry [Appendix II.]; and we also passed through the noble avenue of beech trees which marks out Tynninghame in a special manner, an avenue of nearly a mile in length, its trees showing splendidly clean trunks of great height and girth. They were planted about the same time as Binning Wood (1705).

Smeaton-Hepburn was finally reached as the terminating point of the day's excursion, and here Sir Archibald and Lady Buchan-Hepburn gave a kindly welcome to the Club, showing us some most interesting relics of Queen Mary of Scotland, and highly valued heirlooms of the Hepburn family. Amongst them were a bodice of black satin worn by Queen Mary; an opal mourning ring, worn by Queen Mary for the Dauphin, and a tortoise shell comb of hers; and an altar-cloth of crimson velvet, embroidered by the Queen at Loch Leven Castle; also a letter from Queen Mary to the then "Laird of Smytoun" in 1568, a facsimile of which the

present laird has kindly bestowed upon the Club [Plate VIII.] In addition, we saw the wedding coat worn by Sir George Buchan-Hepburn on his second marriage in 1781; and, lastly, the unique portrait of James Hepburn, 4th Earl of Bothwell, an engraving of which, specially made for the Club's Proceedings, from a photograph, has been presented to the Club by the owner of the portrait, which, as will be seen from Plate IX., is a striking and most interesting picture, and the hearty acknowledgments of the Club are due to Sir Archibald Buchan-Hepburn in respect of it.



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JAMES HEPBURN 4TH EARL OF BOTHWELL.

*From the unique Portrait in the Possession of
Sir Archibald Buchan-Hepburn Baronet of Smeaton-Hepburn*



APPENDIX I.—CANTY BAY AND THE BASS.

With Special Reference to the Eruptive Rock of that Part. By J. G. Goodchild of the Geological Survey, F.G.S., F.Z.S., Custodian of the Scottish Minerals in the Edinburgh Museum of Science and Art.

The rocks around Canty Bay and The Bass are mostly of eruptive origin, and are of Lower Carboniferous age. Those at the landing-place on the west side of the Bay, opposite the old inn, are sandstones, which are of the same age as the Oil Shales of the Lothians and the Scremerston Coals of the valley of the Tweed. The rocks on the east side of the Bay, which form the other landing-place, are mainly of volcanic origin.

The Bass itself, as well as North Berwick Law, Traprain Law, and some other eminences near, must also be classed as volcanic; but these belong to a different class from those just referred to, and are usually described as “necks,” *i.e.* masses of stone, once in a fluid state, which have filled up, and have consolidated in, the vents or chimneys of ancient volcanoes.

It is not a very easy matter to convey to the minds of those who have not devoted much thought to geology what is the meaning and history of the rocks briefly alluded to in the foregoing sentences. It may be well, therefore, to give a brief outline of their history, and to take occasion, in doing so, to glance at some of the questions of “theoretical” interest which arise while the facts are under consideration. This plan of treatment will make the relationship of the rocks to each other much more easy of comprehension than a purely technical description, however carefully worded.

Very far back in the past, and long before the first appearance of any geographical features now existing as such upon the Earth, a great continental area lay to the north-west of what are now the British Isles. The present site of our land was then occupied by open sea, with a few small islands here and there. The depth of water increased toward the south; and there appears to have been open sea in that direction far beyond the precincts of our present land. The climate was mild and equable, with a moderate, but frequent, rainfall, and while there is no reason for supposing that the summers were any hotter than we usually have here now,

there is good reason for the belief that both the cold winds of our spring, and the frosts of our winters, were conspicuous by their absence. Furthermore, it seems to be a well-established fact* that the temperature of the surface-water of the sea, upon which the well-being of so many living things depends, was not liable to changes of anything more than small extent. Lastly, it may be stated here that there does not appear to be any good reason for the belief, once widely held, that the atmosphere of Carboniferous times contained any higher percentage of carbonic acid than does that of any part of the globe of to-day. Equability of climate characterised the whole of the immensely-long period during which the Lower Carboniferous rocks of Britain were in process of formation.

A vast thickness of rocks of various kinds accumulated in the northern parts of the kingdom during the period in question. The thickness of the Lower Carboniferous strata near Edinburgh, for example, amounts to some seven or eight thousand feet. As a large part of these rocks were formed in seas of moderate, or of small, depth, it must be clear that the sea-bottom, throughout the whole of the period while these strata were accumulating, must have been undergoing subsidence. There is evidence to show that the subsidence in question was more pronounced in the southern parts of the area, so that the floor of the sea there was occasionally let down by the sinking of the Earth's crust to a very considerable depth below the upper level of the sea. The downward movement was by no means continuous; as there is clear evidence of long pauses between the subsidences, during which the land remained nearly at the same level. The movements of depression which led to the change from shallow to deep water conditions appear to have been usually somewhat abrupt; and, furthermore, these abrupt downward movements were, after a long interval of time, usually followed by some movement in the opposite direction. The net result of these oscillatory movements was, however, one of subsidence.

Rivers draining the old continent mentioned above as lying to the north-west of our present land, slowly transferred the

* Goodchild, *Trans. Geol. Soc., Glasgow*, Vol. XII., pp. 34-38; and *Proc. Roy. Phys. Soc.*, Vol. XV., p. 62,

wasted materials of that land to the sea-bottom, where the mechanically-carried sediments were gradually spread out upon the sea floor, layer after layer, the materials being coarser or finer, accordingly as the currents varied in their carrying powers. An extensive delta resulted from the gradual accumulation of these sediments. Its seaward margin, during each interval between the movements of subsidence, slowly, but continually, advanced in the direction of deeper water. With each of these downward movements the delta was lowered beneath the waves; and, as a consequence of this depression of the delta, it happened many times that beds of limestone and other rocks, formed by organico-chemical agency in clear (and usually in deep) waters, were slowly built up over the beds of mud, sand, and silt which, under shallower-water conditions, had previously been laid down upon that spot.

Along with the wasted materials derived from the rocks of the old continent, the rivers transferred seaward the drifted remains of the vegetation that had grown upon and near the land; and with these plants were transported representatives also of the animal life which flourished in the same areas. As the entombment of these organic remains took place beneath the water of the sea, there often occurred an intermingling of forms of life proper to the land with those belonging to the sea—the proportion of the one to the other being dependent chiefly upon how far off the margin of the land was for the time being.

In the outline of the geological features given in the opening sentences some reference was made to the presence here of volcanic rocks. We need, therefore, to consider what relation such materials of the Earth's crust bear to sediments, and we should at the same time also enquire into the nature of the causes to which volcanic phenomena in general are due. As these points constitute an important feature in the present case, it may be well to devote some of the following remarks to its consideration.

Amongst these questions one of the first importance relates to the geographical distribution of volcanoes, and their relation to some of the major features of surface relief. In connection with this point we may first of all note that a very close connection exists between areas of subsidence and

those of upheaval. The two may be in close contiguity, or they may be far apart; but, however they are situated with regard to each other, they are clearly correlative. As this fact is one that has an important bearing upon the arguments that follow, it may be as well to make its nature quite clear by means of one or two illustrations like the following:—If we take two or three leathern straps and lay them lengthways one upon another, and press the opposite ends towards each other, it will usually happen that the straps will be folded into a series of bends, curving alternately upward and downward, the closeness of the upfolds to the downfolds will be, of course, dependent upon the length of the straps and the distance of the ends from each other. The number of the folds, or, what comes to the same thing, their magnitude, will depend upon the manner in which the pressure is applied. Furthermore, if we make a chalk mark across the edges of the straps, before they are folded, and keep our eyes upon these marks as the folding goes on, we shall see that there is a small sliding movement of one strap past the other, the existence of which is rendered still more manifest if the pile of straps consists of half a dozen or more. Besides this differential movement there is an evident tendency for the straps to separate a little from each other, so that small spaces are opened at certain points. These facts are of some importance in connection with what is to follow.

We may realise the correlation of the downfolds with the upfolds also in another way. Perhaps a water-bed, such as is sometimes used for invalids, will serve for this illustration. When a patient is laid upon the water-bed the part beneath him sinks with his weight, and a corresponding rise of the surface of the bed around ensues as a consequence of the displacement of the water. Downfold and upfold again are correlated. As yet another illustration we may take note of what happens to a pan-full of dough when it is undergoing kneading—just as much of the plastic mass rises above the general level as is forced out by the kneading action of the operator's hands. These illustrations are all very commonplace, but, nevertheless, they serve well to enable us to realise what takes place on the large scale where the outer portions of the Earth's crust are undergoing flexure.

Leaving out of consideration the causes to which these earth-crust movements are due, the reader is asked for the present to take it for granted that such a correlation between the downfolds of the Earth's crust and its upfolds actually does exist; and that wherever movements of elevation or of depression are in progress now, there will be found, on the margin of that area, another within which the flexure takes the opposite direction. These undulatory or wave-like movements are just as much in progress now as they can be shown to have been in the past; and it is largely due to their action that, in the course of long ages, the major features of both the continental and the oceanic areas for the time being have been determined.

One of the best examples of the features in question, which may be cited here with especial appropriateness at the present time (1902), is that afforded by the Windward Islands in the West Indies, which have been, and still are, the theatre of so many tragic events in connection with the recent disastrous volcanic eruptions. Any good physical map or chart of the archipelago in question will show that this chain of islands lies upon a well-marked ridge, which is fundamentally little else than an old ocean floor recently upheaved. This ridge, with its accompanying chain of volcanoes, is flanked on the one side by the deep waters of the Atlantic, and on the other by the deeper—almost abysmal—waters of the Caribbean Sea. The Windward Islands are, in fact, based upon a great submarine upfold, which is correlative to the downfolds adjacent. Furthermore, if we regard the feature in question still more broadly, we shall see that the Windward Islands are simply a continuation of that great marginal upfold which borders the depressed area of the Eastern Pacific, along the whole extent of South America. It is upon the summits of this ridge that the stupendous volcanic piles of the Andes are borne aloft. Many other examples of the same nature could easily be cited.

The Windward Islands were certainly part of an area which lay deep below the surface of the ocean in quite recent geological times. This is clearly enough shown by the nature of the organic remains entombed in the rocks upheaved. To a varying extent this also can be said of nearly—perhaps quite—all recent volcanoes. The uplift therefore must have taken place quite

recently; and, indeed, it can easily be shown that the process of upheaval is still going on. St. Vincent, St. Lucia, Martinique, St. Pierre, are therefore, geologically speaking, geographical features which are entirely of quite recent origin; and this can be shown to be the case with active volcanoes in general.

The essential features to be borne in mind in the present connection are these:—(1) The Windward Islands are situated upon a ridge marginal to two oceanic depressions. (2) They are of quite recent origin, so that the movements to which both the downfolds and the correlative upfolds are due must also be quite recent, or they may be even yet in progress. (3) They are, of course, situated close to—within, in fact—a large area of water containing various substances in solution, including compounds of Lime, Potash, Soda, Magnesia, etc.

It would not be difficult to show that this concurrence of circumstances has characterised all volcanoes, whether we have regard to those which are active now, or whether we are considering those which have become extinct. The question that naturally arises, therefore, is whether we can connect this concurrence of circumstances with any explanation that would signify much in the present connection. It will not be difficult to show that some such connection can be traced. We may go farther and state that the presence of the volcanic rocks on the shores of East Lothian is connected with oscillatory movements of the Earth's crust, which occurred in these parts many millions of years ago, and which, in all essential respects, were identical with those which have a place in the geographical evolution of the volcanic features of to-day.

Before considering these in detail, we shall give attention to one or two more considerations bearing upon the causes of volcanic action; and, after that, go on to review what is known of the history of the volcanic rocks to which these remarks are intended more especially to apply.

It may be as well to state here that I shall disregard the old view that the volcanic action of all the later geological periods has any necessary connection with any remains of the primeval heat of the Earth. I shall go upon the assumption* that volcanic action, in the main, is the direct result of

* In which, probably, many persons will not agree with me.

the high temperature generated within the outer portions of the Earth's crust by dynamic causes still in progress, and operating in the presence of water (usually sea water), which contains various dissolved substances in solution, amongst which the alkalies are the most important.

As regards the possibility of the generation of heat by dynamic causes, we have but to consider any one of many illustrations, all of which serve to show how this arises. Some of us may remember how schoolboys, wearied with lessons, used to rub brass buttons on the school desks until the friction made the metal hot enough to be uncomfortable to the face or hand of the boy next to him. The operator put a certain amount of *energy* into the work, which energy was transformed into heat. Again, many persons may have seen a blacksmith, by hammering a piece of annealed iron, raise it to a temperature sufficiently high to ignite the smithy fire. A still more familiar illustration of the transmutation of the energy of motion into the energy of heat is afforded by the application of the brake to the wheels of a railway carriage, when the guard desires to slacken down the speed of the train. In all of these illustrations the heat evolved bears a direct and well-known proportion to the amount of energy employed. It matters not the least whether the motion is rapid or slow; for just as high a temperature can be evolved by the slow movement of a mountain mass under the influence of a powerful terrestrial thrust, requiring, perhaps, thousands of years to shift the mass a foot, as can be got out of a mass of any smaller dimensions moved at a quicker rate. The principle in both cases is exactly the same; whether it is a case of a little girl warming a knitting needle by rubbing it on her sleeve, or of two errant stellar bodies colliding, or of the slow upheaval of a great continental mass under the prolonged influence of lateral thrusts; in each case heat proportionate to the energy expended is rendered manifest in some way or other. It is thus, many people now think, that the heat which is the prime cause of volcanic action is generated.

The temperature requisite for the fusion of rock material in the absence of water is very high, and need not be considered here, because some water is sure to be present. In the presence of *pure water* the temperature requisite for lique-

faction is much lower; and if *alkaline matters*, even in small quantity, are present in the water concerned, the temperature which suffices for softening, or even for liquefaction, is lower still. An increase in the percentage of the dissolved alkali still further lowers the temperature required. On the other hand, liquefaction of most substances is regulated very largely by pressure; so that a temperature which would amply suffice for that purpose under moderate pressure, would not suffice in these cases if the pressure is increased. The same remark applies also to water. If water is closely confined within a very strong vessel, it is possible to raise its temperature to nearly red-heat without the superheated water passing into the condition of steam. The chief difficulty attending experiments of this kind is connected with the fact, of much importance in the present connection, that the solvent power of water increases with a rise of temperature; so that the heated fluid dissolves away the walls of its prison, and by an explosive effort sooner or later effects its escape.

Two other points call for notice. The first is the curious fact that the higher the temperature to which a given mass of rock is raised, the larger the quantity of water it can imbibe or occlude. Heated rock greedily takes in water; and thus, by degrees, not only is its liquefaction facilitated, but the explosive character of the compound which thus arises constantly tends to increase.

While the pressure of the portion of the Earth's crust overlying the heated zone remains constant, it is probably the case that this explosive tendency is kept constantly in check. But in a region undergoing terrestrial disturbances a state of equilibrium is constantly liable to be disturbed. Somewhere or other in the region where the explosive tendency is greatest a local relief of pressure is sure to arise. Wherever the weight is in the smallest degree eased off, some of the pent-up superheated water instantly flashes into steam, and it does so with a degree of violence to which it is not possible to find a parallel on the surface of the globe. This subterranean explosion is the prime cause of an earthquake and all its attendant phenomena. But such an explosion does more than give rise to disturbances at the surface. It acts underground in relation to the surrounding rocks in exactly

the same way as a blast of dynamite does in a quarry: it loosens the masses around, and loosens most of all those which overlie the spot where the explosion has taken effect. Thus a further relief of pressure ensues; more explosions follow; still more rock is softened; additional quantities of water find their way in; the lateral pressure squeezes the softened rock upwards, just as a painter squeezes oilcolours out of a tube; and so, step by step, one earthquake follows another with increasing rapidity and violence, until, eventually, an explosion more violent than usual opens up a communication with the surface, and a volcano starts into existence.

When the volcanic stage is reached other factors come into play. (1) The sea-water which finds its way down to the volcanic focus is driven off at the surface in the form of steam; hence its dissolved constituents, such as the potassium and sodium compounds, which are not so driven off, are steadily concentrated, and thus play a part of ever-increasing importance in the volcanic economy. The frequent expulsion of softened or liquefied rock-material from the interior of the Earth's crust sets up a lateral flow of other rock-material from the areas around to fill up what would otherwise be a vacuity. This, in its turn, favours an increase of terrestrial movement around, and thereby generates more heat. Thus the action and reaction go on, until, eventually, changed physical conditions lead to the gradual transfer, step by step, of the centres of volcanic action in one area to new centres in the areas adjoining.

As regards what one may term minor features connected with volcanic action only a few call for notice here; if there were space for more it would hardly be necessary for the purpose in view to discuss them. Amongst these some reference must be made to the products of volcanic action. First of all we may notice what is called TUFF, which used to be called "ashes." During explosive eruptions in a volcano the imprisoned water, and the partly-dissociated gases $2\text{H}_2 + \text{O}_2$ of which water is composed, constantly tend to pass into steam. The superheated water usually does so with explosive violence, and generally gives rise to a succession of explosions rather than to a single powerful one. The resulting sound is rather like that of file-firing, as distinguished from volley-firing, in musketry. The steam liberated at each explosion

makes its way upward through the vent of the volcano, sometimes tearing off great masses of rock as it does so, at other times bursting its way through the basin of fluid rock seething in the crater, just as bubbles of steam make their way upward through boiling porridge. Every explosive effort drives off quantities of rock material. The more violent ones send rock fragments of all sizes flying into the atmosphere above the vent, often to great elevations above the volcano. The finer materials, after being blown about by the wind, fall back again to the surface of the Earth, and what does not happen to fall into the crater usually remains on the flanks of the volcano, or, at any rate, falls at no great distance from it. This fragmentary material, shot out by the explosive eruptions of a volcano, and accumulated outside of the crater, is what is here called tuff. No better examples of an ancient deposit of this nature can be seen anywhere than in the cliffs and on the shore to the east and west of Canty Bay. The term agglomerate is commonly restricted to the materials which fall into the crater.

If the eruptions are of a quieter nature, and not characterised by violent explosive outbursts, the fluid rock may be forced upward by the high pressure steam below, it may reach the lip of the crater and it may thence flow down the side of the cone, cooling and slacking in speed as it goes. The term LAVA is restricted by geologists to rock which has flowed from a volcano and cooled above ground. There are no true lava streams quite close to Canty Bay at present, though some were there in former times.

If the fluid rock is propelled in amongst the other rocks underground, or if it eats its way there by other means, and there consolidates without reaching the surface, the solidified result is generally spoken of under the name of a trappean rock, if the depth at which consolidation ensues is not very great; according to its mode of occurrence such a rock may be either a SILL, which runs nearly coincidentally with the bedding; or, if it cuts as a wall-like mass across the rocks with which it is associated, it is called a DYKE.*

* It may be remarked here that a "dyke," etymologically regarded, is simply a something—a wall, a hedge, or a ditch—which marks the limits between two particular pieces of ground,

Lastly: when the volcano is active for the last time it often happens that the result of the final explosive outburst is the ejection of great quantities of fragmentary materials, which may end by falling back into the vent and then choking up the pipe. Or, more commonly in such a case, fluid rock, such as would be called lava if it flowed down the sides of the cone, may fail to reach the surface, and remain in the vent and consolidate there. In either of these two cases the pipe thus filled-up is spoken of as a NECK. As already mentioned North Berwick Law, Traprain Law, The Bass (and others) are examples of such volcanic Necks.

The diagram Fig. 1., on Plate X. may serve to make these points clearer. The part marked N. represents the position of the part of the volcano out of which the Bass Rock has since been shaped.

The foregoing somewhat-lengthy digression was needed for the purpose of preparing the way for an account of the remainder of the history of the district under notice. This history will, therefore, now be resumed:—

The oldest rocks of Lower Carboniferous age seen near Cauty Bay are of sedimentary origin, and belong, as mentioned before, to the Oil Shale Series. They are mainly sandstones, which were evidently formed in the shallow waters of a deltaic area. They show here and there sun-cracked surfaces, which tell us plainly enough that they were formed quite close to the surface. A remarkable feature connected with them is the presence of great numbers of small faults or dislocations of the strata, which, on closer examination, are seen to have been formed *contemporaneously*, like the faults which traverse the cleaved tuffs of Ordovician age at Tilberthwaite, near Ambleside. Along with these faults, which can be well seen close to the old inn on the shore at Cauty Bay, there are also many curious examples of contemporaneous contortions of the strata. These contemporaneous contortions, it may be remarked, form a very characteristic feature of the sandstones of the Oil Shale Series in both Fife and the Lothians. I have long regarded these as due to the effects of the earthquake shocks which heralded the incoming of the volcanic conditions, and which affected so large an area of the midlands of Scotland about this time.

While these shallow-water conditions prevailed here, volcanoes broke out after having been long in active operation in other districts adjoining. As regards the position of the centres of eruption it is not easy to state anything definitely; but, as the vents before mentioned were undoubtedly those of volcanoes at a somewhat later period, it would appear that we should be safe in regarding the site of the volcanoes from which the materials of the tuffs seen near Canty Bay were emitted as coincident with one or other of the three. Probably North Berwick Law represents the site of the principal one; The Bass is another, and a third is represented by Traprain Law.

There is no need to enter into any great detail regarding these volcanic outbursts. Suffice it to say that, so far as the district specially under notice here is concerned, all the earlier eruptions were certainly of an explosive character. And if any one will attentively study the details of the strata so formed, as these are exposed in the cliffs and on the shore at Canty Bay, he may easily satisfy himself that occasionally the explosive eruptions were of a very violent character. It would be as well for him to remember that the huge blocks, some of them many tons in weight, which he may see in the tuffs on the shore, have each and all of them been hurled forth from one or other of the volcanic vents in question, and after a journey into the air, which may, in many cases, have been one of thousands of feet, they have fallen back to the surface of the Earth. He will see, along with these other strata which afford evidences of quiet periods, when only fine dust was ejected; and here and there he may see vestiges of the old pools which had come into existence on the flanks of the cones, and into the soft mud at the bottom of which big blocks now and then had fallen from the skies. He may also see dykes and intrusive sheets of rock, representing the effects of the subterranean action of the old volcanoes. Lastly, some very curious sand dykes are there laid open to view. These have perpetuated the memory of some surface cracks formed in the volcanic rocks by earthquakes, which have subsequently become filled from above with sand, or other material, which has since hardened into stone. All these, and much more that is of interest, may be seen along the shore on either side of Canty Bay.

But the principal feature to be dealt with before we leave this part of the subject is the geological history of The Bass. Briefly stated it is as follows:—At a late period in the history of the Lower Carboniferous volcanic rocks of East Lothian, small eruptions seem to have taken place at many different centres, instead of being confined to one or two larger volcanoes. Hence arose several small volcanoes, somewhat like the Puy of Auvergne; or else, perhaps, like some of the numerous parasitic cones which occur on the flanks of Etna. The last products of volcanic eruption to rise through these were different, as regards their chemical composition, from those which preceded them. Most of the lavas from the East Lothian volcanoes were of the kind that geologists term andesites—because it is the prevailing type in many of the South American volcanoes. But another type, containing but very little felspar, was intruded underground during the earlier phases of eruption. This type of eruptive rock, which is particularly well seen in the cliffs and on the shores east of Canty Bay, may be called a Limburgite. It is a variety of basalt in which the proportion of felspar present is unusually small. The east landing place at Canty Bay is on a sill of rock of this kind. The very latest phases of volcanic action gave rise to another kind of eruptive rock, which, chemically considered, stands almost at the opposite extreme as compared with the Limburgite. This rock contains a very large percentage of felspar; in fact, the rock consists of very little else, and much of the mineral belongs to that potash felspar known as Orthoclase. An eruptive rock of such composition, which has been formed at or near the surface, is usually spoken of as Trachyte. The Rock of The Bass is of this kind. It used to be regarded, as one may see by looking at the Geological Survey maps, as a “greenstone”; but, about ten years ago, I had an opportunity of landing on it, and at once saw that it was certainly not a “greenstone.” Dr Hatch, who examined my specimens, at once pronounced the rock to be a true Trachyte. This proved to be the case also with the rock of North Berwick Law. In all essential respects the rock composing Traprain Law is of the same nature; but, in addition to the felspar, it contains traces of a mineral called Nepheline, and hence it is called a Phonolite by those

who are fond of using as many names as possible for different varieties of rocks.

After the eruptions ceased the land continued to subside, as already mentioned, and hence the old volcanoes eventually became buried up, thousands of feet below sea level, and beneath a vast pile of other and newer strata. Each of these beds has some specially interesting feature of its own, but consideration of space forbids that they should be more than just referred to here.

After a period of time, of inconceivable length, the Carboniferous rocks were subjected to great disturbances, were folded and faulted, and then upheaved, and, finally, they were wasted and worn away to a vast extent. Eventually, these disturbed and denuded rocks were covered again—this time by the desert-formed rocks of the New Red, and, still later, also by the succeeding Jurassic Rocks. Traces of the New Red still exist in many parts of East Lothian, chiefly in the form of stainings; but also as outliers near Dunbar.

Other changes ensued, occupying, in the aggregate, an interval of time amounting to a great many millions of years. After that came the time when the present surface-features had begun to be carved, by the prolonged action of rain and rivers, out of the old rocks whose complicated history has been just glanced at. The Forth and its tributaries had gradually come into existence, and by slow degrees the rivers had begun to assume somewhat of their present form. It must be noted here that the North Sea has not long come into existence as a marine area, for the land formerly stood at a higher level than it does now. The area now occupied by its waters was simply the valley of the Rhine, which then flowed northward of the east side of what are now the British Isles, and entered the Atlantic to the north-west of Scotland. The Forth area under these conditions was that of a fresh-water river. The main channel of the Forth lay at that time, as it does at present, to the north of what is now The Bass; but, under these geographical conditions, an important tributary flowed between The Bass and the mainland, and joined its trunk stream much farther to the east. What river now represents the modified descendant of that stream must, for the present, remain a matter of conjecture. But,

as regards the minor features of the valley, it is certain that, under any circumstances, the harder rocks in the valley of the Forth and its tributaries must have resisted atmospheric wear and tear better than the rocks around, just as they do now, and hence, in the general lowering of the surface by atmospheric waste, these harder parts, wasting less rapidly than the others, were left relatively higher, and stood up as hills. So, when the old volcanic rocks were exposed at the surface, the softer strata around wasted at a much faster rate, and the hard column, consisting of what had once been the molten rock of the volcanic neck, came by slow degrees to stand out in high relief above the rest of the surface.

After a time, and probably as a consequence of the higher elevation of the land, the Age of Snow set in. This prolonged period of cold led to the formation of a thick mantle of ice, which enveloped all the land, and slowly moved seawards from each of the great centres of precipitation, steadily flowing, as it did so, across every obstacle in its way. The summits of the Pentland Hills, for example, were traversed by the seaward moving ice, as was also the summit of North Berwick Law, as anyone may convince themselves was the case if they will examine the glaciated rock-surfaces which yet exist on the north side of its summit. The Bass was, so to speak, a mere pebble in its way; and it doubtless owes some of the minor details of its form to glacial action.

The result we are chiefly concerned with here, however, so far as the Age of Snow is concerned, is this:—The weight of a thick mantle of ice, which must have been two or three thousands of feet in thickness at many places in Scotland, is believed by many to be the chief cause which brought about a depression of the land. From being several hundred feet higher above the sea than it is at present, the land was lowered perhaps as much as a hundred and fifty* feet below its present level. So, by degrees, as the ice melted away the North Sea took its place, and sea water occupied the area of the Forth to far above Stirling. It was at this time that the platform upon which Tantallon Castle and the new inn at Canty Bay now stand was carved into its present

* Some people think the depression was much more than this,

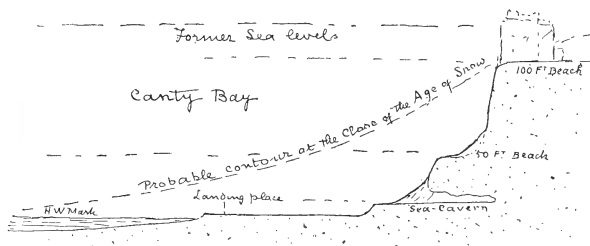
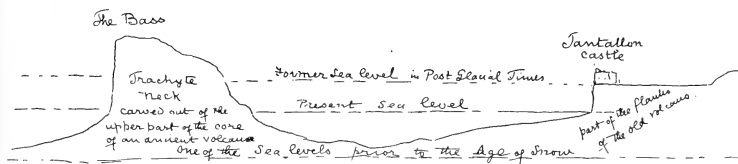
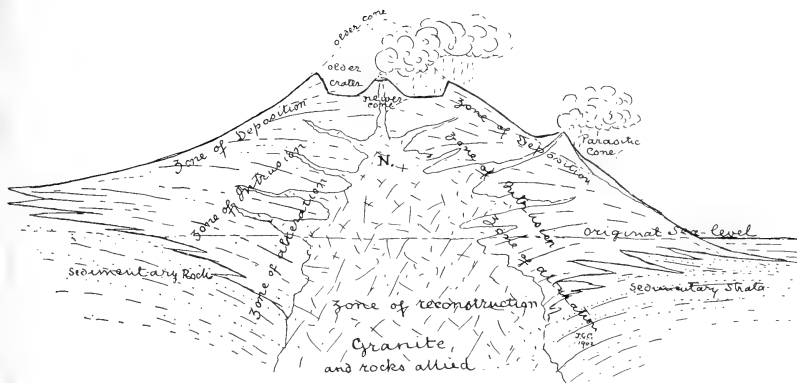
level surface by the prolonged action of the waves of the North Sea. Perhaps the diagrams on Plate X. may serve to make some of these points clearer.

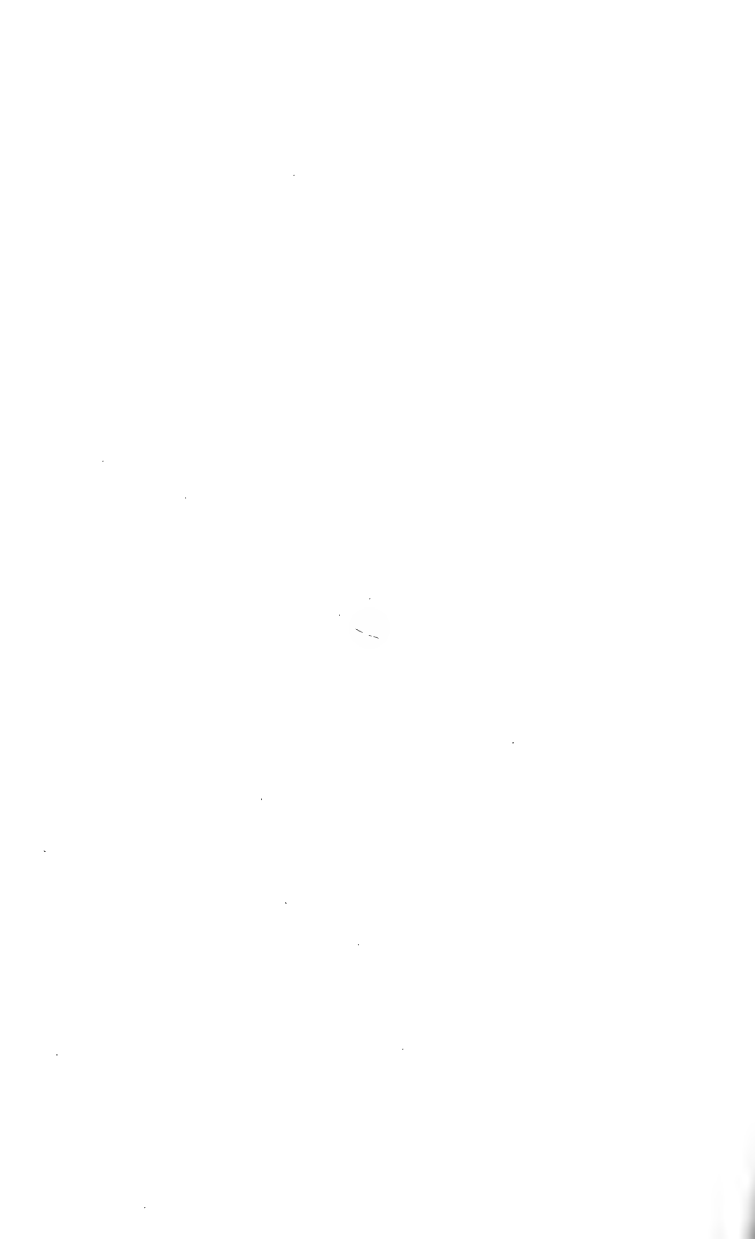
Then the land rose, step by step, with long pauses between each uprise. During these stationary intervals ledges and shelves of rock along the sea margin were carved by the waves, as before. Several remnants of these remain to this day, and a trained eye can easily detect at least two such shelves upon The Bass, upon the sides next the land. When the upheaving force had elevated the land to within between twenty and thirty feet of its present level, a large number of sea-caverns were shaped by the waves out of the rocks forming the coast line of that time. Nobody has yet ventured to suggest any explanation of the reason why sea-caverns should have been shaped by the sea on so much more extensive a scale at this time than either before or since; but I do not think that there can be much doubt about that fact, nor that even the caverns whose floors are now at sea-level were initiated at the earlier period referred to, and have been deepened by later marine action. This is probably the case with the cavern which runs through the southern half of The Bass from east to west. See the diagrams above referred to.

Since the sea-cavern period, and down to, perhaps, just before the Roman Invasion (but not since) there have been several minor uplifts, the intervals between which have been of sufficient length to permit of the formation of some minor of those upraised shelves of rock which are called raised beaches. On one of these shelves the Old Inn at Canty Bay has been built. One of date still later is the shelf upon which the boats returning from The Bass land the people when they happen to alight on the east side of the Bay.

In this shelf the sea is still at work day and night and all the year round in deepening and widening the joint planes, in giving rise to marine pot holes, and in accomplishing other kinds of erosion such as have been at work at former times in combining to shape the older terraces. The successive stages in the process can be easily followed; and when the Club met last at this spot, a considerable amount of interest was evinced by its members in studying the evidences of contemporaneous erosion.

BERWICKSHIRE NATURALISTS' CLUB.





APPENDIX II.

*A Treatise on the manner of raising Forest Trees, etc.
In a letter from the Right Honourable Thomas, Sixth Earl of
Haddington, to his Grandson.**

When I came to live in this place, in the year 1700, there were not above fourteen acres set with trees. I believe the reason was, that it was a received notion in this country that no trees could grow here, because of the sea-air and of the north-east winds; so that the first of our family that lived here, either believing the common opinion, or not delighting in planting, made no attempts that way. My grandfather came late to the estate, and the civil wars in the time of King Charles I. did not permit him to stay at home (for, being lame, he could not join either side); but when they were over, he tried to raise some trees, which he planted round the house and gardens. There were but two rows of them; but I make no doubt he would have gone on if death had not prevented him. My father succeeded him, who, as I have been told, both loved and understood planting as well as any man in his time. He began to plant, to drain, and enclose his grounds to very good purpose, and I question not would have gone on in the same way; but his father-in-law dying, he went to take possession of the estate in right of my mother, who was heiress, and settled at Leslie, where he planted a great deal.

As I was then very young, I staid at Leslie with my mother, and this place was let to tenants. They pulled up the hedges, ploughed down the banks, and let the drains fill up so, that when I came to reside here everything of that kind was in ruins, except the thickets to the east and west of the house. As I was not then of age, I took pleasure in sports, dogs, and horses; but had no manner of inclination to plant, inclose, or improve my grounds. But, being at last

* An extract from an early work on Forestry, communicated by Miss Mary Milne-Home.

obliged to make some enclosures for grazing my horses, I found the buying of hay very expensive. This made me wish to have enough of my own; yet I did little or nothing of that kind for some years. But, as your grandmother was a great lover of planting, she did what she could to engage me to it, but in vain. At last she asked leave to go about it, which she did, and I was much pleased with some little things that were both well laid out and executed, though none of them are now to be seen; for, when the designs grew more extensive, we were forced to take away what was first done. Though the first Marquis of Tweeddale, my Lord Rankeilor, Sir William Bruce, my father, with some others, had planted a great deal, yet I will be bold to say that planting was not well understood in this country till this century began. I think it was the late Earl of Mar that first introduced the wilderness way of planting amongst us, and very much improved the taste of our gentlemen, who very soon followed his example. I had given over my fondness for sport, and began to like planting better than I had done, and I resolved to have a wilderness. I fixed upon some ground near my bowling green. I laid it out in a centre with fourteen walks from it, the most of them having tolerable good terminations. But as it was too little, in some years I enlarged it greatly; and your father, who had an admirable taste, put it in the figure it is now in.

After the wilderness (I mean the little thing with straight walks) was finished, your grandmother came to me with another proposal. There was a field of three hun-Scots. acres, each one fifth larger than an English acre, called the Muir of Tynningham, that was common to some of my tenants and a neighbouring gentleman, the ground being of very little value, except some small part of it, for which one of my tenants paid a trifle of rent. This ground she desired to enclose and plant. It seemed too great an attempt, and almost everybody advised her not to undertake it, as being impracticable, of which number, I confess, I was one. But she said, if I would agree to it, she made no doubt of getting it finished. I gave her free leave. The gentleman and tenants had their loss made up to them; and, in the year 1707, she began

to inclose it, and called it Binning-wood. After she had begun to plant it, I thought it would be a pity not to have a centre in it, and walks from it, with the best terminations we could find. For that end I traversed the ground till I found what I wanted. I told this to my wife, who went and looked at it, and liked it very well; but, walking about, lighted on a spot of ground that she thought more proper for a centre. I preferred my choice, she hers; but knowing that the Earl of Hoptoun, the present Earl of Marchmont, and the late Sir John Bruce were to be here in a few days, we resolved to leave the determination of this controversy to them. When they came we all went to the field. The spot your grandmother had pitched on was the first we came to, here she stopped, and said what she could in praise of her choice. I begged to go on to mine, but my Lord Marchmont said it would be best to set up the instruments there, and to take the views and walks. When that was done, he would go forwards and do the like at mine; and when both were laid down on paper, it might be judged which was best.

In the meantime Sir John Bruce had straggled from us, and sent to tell he had lighted upon a finer spot of ground for a centre than either of the two we were contending for. My Lord Marchmont sent him the same answer he had given me; and when he had ended what he had to do at mine, he went and did so at the place where Sir John was at. When we returned to the house he laid down the whole field on paper, with the three centres, and the walks from each of them. When this was shewn, it was agreed unanimously that all the three should be laid out on the ground, and the planting carried on by that plan. This was done, and stands so to this day, with very little variation; only that there are some serpentine walks, and some figures laid down by your dear father when he was but ten years old. An incredible number of trees are planted in this field, but I shall say nothing about the method that was taken, because I am to tell you how every kind of tree is to be managed. I shall only say that all who see it express themselves highly pleased with it. I now took pleasure in planting and inclosing; but, because I did not like the husbandry practised in this

country, I got some farmers from Dorsetshire. This made me divide my ground. But as I knew the coldness of the climate, and the bad effects the high winds had, I made strips of planting betwixt every enclosure, some forty, fifty, or sixty feet broad, as I thought best. From these Englishmen we came to the knowledge of sowing and management of seeds—a thing of so great advantage that I intend to write something on that head to you.

CHAPTER I.

I have read all the books I could lay my hands on that are in English on the subject of planting (and they are not a few in number.) Some good things are to be met with in most of them, though there are none that I entirely agree with. John Evelyn, Esq., seems to have had great skill, but his language is affectedly cramp. He shews, in my mind, too much regard to the age of the moon, and other niceties that I think absolutely unnecessary. He is tedious, and makes too many digressions; but in the main is a good author. Moses Cook was gardener to the Earl of Essex, and wrote much about the same time.

SECT. I. OF THE OAK.

The oak is raised by the seed called the acorn. Authors mention different kinds in Britain, but I own I know nothing of it. I have raised many, but could never observe any odds amongst them. All my acorns came from England. Yet I think there must be more kinds than one; for that which comes from abroad, and is used for barrels and wainscoting, seems to be of a very different kind. I have raised many oaks by setting the acorns in the ground, where they are designed to stand without being removed. And I think it by far the best way, if the field mice could be stopped from destroying them; because every time a tree is removed it puts a stop to the growth. Where the ground was bare, as in Binning-wood, the acorns did very well. The way I have taken of late is, to make seed beds after this manner. We trench a piece of good ground and lay it out

in beds, as gardeners do. On them the acorns are put, with the sharp point to the earth, and then cover them about an inch deep. The best season for this work is when the acorns drop in October. After they peep above the ground they ought to have some earth sifted upon them, for frost may swell the ground so as to spew up some of the acorns. In that case they must be put in again with a finger. I propose, in the February after they have stood two years, that they should be planted out for good and all. It is my favourite tree. I have planted it everywhere, and I can shew them very thriving on rich, poor, middling, healthy, gravelly, clayey, mossy, spouty, and rocky ground; nay, even upon dead sand. And it is visible that the oak grows everywhere on my grounds faster than any other tree, some of the aquaticks only excepted. Large oaks stand at a great distance, but I cannot allow that to be a good reason why, in new plantations, oaks should be set at forty, fifty, or sixty feet distance, far less (as some of our modern authors advise) at as many yards; for though they may see great trees stand so, yet it is more than probable these trees stood in a thicket, and the rest in time have been taken away. No tree should be allowed to fork; one upright shoot should only be suffered, for when there are two or more the sap that should all run into one is dispersed into many.

SECT. III. OF THE ELM.

I shall begin with what has grown long in this country, and is called the Scots elm. There are many huge trees of this kind and would have been surprisingly beautiful, but they have been allowed to fork, which is a pity, since the timber of it is both strong, of fine colour; very little inferior (in my opinion) to some of the West Indian woods so much run after for tables, chairs, chests, and cabinets. I am not sure if this tree is what in England is called the witch-elm. Another kind, with a leaf like that of the hornbeam, I have heard called the London elm. The long walk at Holland-house, and the incomparable one at Kensington (now hedged) is of what I call the London elm.

SECT. VII. OF THE HORSE CHESTNUT.

. When cut hedgeways (as at Highgate) it stands the storm, and grows to a tolerable height.

SECT. XII. THE QUICK-BEAM.

This tree is called in the country the rowan or roddan tree.

OF EVERGREENS.

SECTION I. OF THE FIR.

. I was then at great care to get the seed, and for some time bought it of Highlanders, who bring it from the fir-woods and sell it in the low country. But these fellows, after gathering the cones, or, as we call them, the clogs, from laziness lay them upon a kiln. This makes the cones open immediately, and brings out the seed; at the same time so over-dries it that the seed cannot grow. Being thus disappointed, I wrote to a gentleman who had a fine fir-wood. He sent me a present of 13 horse load of cones; but fearing it would be too late to get them all opened at the sun to be ready for sowing that year, a maid got the charge of some loads of them to lay before a fire to be opened there, with orders only to lay down a few at a time, and neither to lay them too long or too near. This she observed for some days, and we got out some very good seed that way; but one day she laid down too great a heap, and wearying, went out to divert herself. A coal fell out of the fire, and when she returned she saw all the heap in a flame. On this she ran away and locked the door. By this means I not only lost the rest of my fir-cones, but burned the furniture of one room, and with great difficulty got the house saved. As this present year, 1733, I have cut down in Binning-wood 2588 fir trees. If they are planted at four feet distance, and no other trees amongst them, then it is as good not to touch them, but let them prune themselves; which, by rubbing on one another, and want of air, they will do.

OF FENCES.

. I began the ditch, and laid the first turff within half a foot of the ditch, with the grass side down. Upon that I laid quicks or white-thorn at eighteen inches distance from others, having cut them so that about an inch of them lay beyond the turff. When this was done another turff was raised and laid upon its edge, with the grass side outwards, just upon the quicks, and laid on another row of quicks at the same distance, so as to point out betwixt the middle of the row below. Then I raised another turff and laid it above the second row of thorns, on its edge, with the grass side outmost. On that I laid the third row of quicks, just above the first row. Then I threw the earth out of the ditch, the best upon the plants and the rest behind them. I did so on the other side, but sometimes left forty, fifty, or sixty feet betwixt the ditches, which I stuck full of trees and called them strips of planting. I then tried another way. I drew two lines, at 9 feet distance, the length of a field, lifted the turff, without the lines, laying them edge-way with the grass side outwards; raised banks, filling in the earth in the middle, betwixt the two rows of turff, till I raised it betwixt five and six feet high, green on both sides, nine feet broad at bottom, drawn into three and a half at top. On this, hollowed a little to keep in the moisture, I set hollys upright. It has long been a handsome and secure fence to the roadside.

Tynningham,

22nd December 1733.

APPENDIX III.

*The Text of the Letter, in the possession of Sir Archibald
Buchan-Hepburn, written by Queen Mary in 1568,
of which a facsimile is given on Plate VIII.*

To our Ryt Traist Friend
the Laird of Smytoun.

Ryt Traist Friend,

We write to you laity anent our proceedings than thanking you ay off your constancy and fidelitye anent uys and our service, quhilk ye sall not repent with Goddes grace, not doubting but ye will continue therein without fear other of our ennemies, or tinsell of guides, to the ane we sall putt order, God willing, belyne, and the other we sall refund and repeat ye even to the last peny.

The last messenger departit frae us the 22d of this instant, and gets his answer frae the Queen at his by passing; giff she will not assist us we sall have both men and money of France; incontent we look also shortly for ansuer, because Midlemas on whose returning frae the Earl of Murray it was delayit passed by here up throw the 23d of this instant. We have in the meantime gotten by chance some wrytings of our Enemies quhilk discovers mony things, especially how sundry of the court of England and counsell promise the Earle of Murray all kindness against us. Quhilk wrytings how soon the Queen sees (for we have sent them to the Lord Herries to that) we are assurit she will be offendit yea and able to to remove them frae furdur melling with our affairs.

Thus referring our service to your faithfullnes we commit you to the protection of God Almighty. At Carlisle the 25th June 1568.

MARIE R.

ALWINTON, HARBOTTLE, HOLYSTONE, AND BIDDLESTON.

THE THIRD MEETING, on Thursday, 18th July, was held at Alwinton, as its furthest point; and included visits to Holystone and Harbottle on the outward journey, and Biddleston on the return.

The following members, and their friends, took part in the day's doings:—The President, Sir George B. Douglas, Bart., Springwood Park (only towards the close of the day); Mr G. G. Butler, Ewart Park, Editing Secretary; Rev. Alexander Bell and Mrs Bell, Rothbury; Rev. John Burleigh, Ednam; Mr John Cairns, Alnwick; Mr Edward Caird, London, and Mr Chaplin, visitors; Mr D. D. Dixon, Rothbury; Hon. and Rev. W. Ellis, Bothal; Rev. James Fairbrother, Warkworth; Mr Arthur Giles, Edinburgh; Mr J. C. Hodgson, Alnwick; Rev. Ambrose Jones, Stannington; Rev. Thomas Leishman, D.D., Edinburgh; Rev. J. F. Leishman, Linton; Mr W. Maddan, Berwick; Mr B. Morton, Sunderland; Sir John Riddell, Bart., Hepple; Lady and Miss Riddell; Mr H. Rutherford, Fairnington; Mr F. Rutherford, Hawick; Mr J. A. Somervail, Hoselaw; Mr E. Thew, Warkworth; Mr and Mrs H. J. Wilyams, Alnwick; Rev. Canon Wilsden, Wooler.

As the Club has already on two former excursions visited the district, and possesses in its Proceedings an account of many of the interesting points which were seen to-day, it is needless to repeat what is recorded in 1868 (Vol. v., p. 381), and in 1887 (Vol. xii., p. 38-55); and a general note of this day's journeying, added to the following descriptions of Holystone and Biddleston, which were given to us on the spot by Mr Dixon, will suffice.

It may be remarked at the outset, to compare present with past, that the excursion of 1887 and that of 1901 are marked by two contrasts. The report of the former gives

a series of phrases eloquent of weather—"gathering rain," "moist mists," "gradually soaked through," "bitter gusts"—the party were "snugly housed in two inns till their clothes were dried," and when later on the rain "burst over their heads once more" they sheltered themselves, the second time, under "umbrellas and top-coats" in a fir plantation. The present excursion enjoyed the finest of summer weather, and the noon-day heat was even perhaps excessive, so that some were fain to walk with open umbrellas and without top-coats.

The other point of contrast is suggested by the words of the earlier report, which state that at Alwinton "we found the President and several other members who had crossed the hills from Scotland on the previous evening, an invasion the inhabitants had not looked for." On the later occasion the Club expected to meet their President at Alwinton, after his morning walk from Cocklaw Foot, but to their regret found themselves obliged to return towards Biddleston without the hoped-for rencontre. They were glad to meet him later in the afternoon, refreshed by his long hill walk, in spite of the sultry weather.

The majority of members started to drive from Whittingham at 9-15 a.m., to meet at Holystone a smaller number starting from Rothbury. The road being generally uphill, the driving pace was slow, and gave us time to take in the points of the wide landscape.

Passing Eslington Hall, standing in the dene below us on our right, surrounded by its trees and deer park, we were entering upon the original "Collingwood country," around and before us, held by that notable family until the year 1715. We now saw the tops of Cheviot and Hedgehope just showing, pale blue, over the nearer flanking hills; then, dipping downhill a bit, we crossed the Shartley Burn by a ford, and having passed through Netherton (built of light-tinted yellow stone), across another ford, there appeared on the right of the road a ruined building, which might, from its high pitched roof, have once been a chapel.

After walking up a hill we came in sight, far off on the right hand, of Biddleston Hall, standing out a square block upon the hillside, and on our left was the dell of Burradon.

Later on, the hills to the right hand, very bare of trees, were seen to be of the soft rounded outline that suggests former glaciation, the "roche moutonnée" form, upon a large scale. Turning our backs on them, we faced the more scarped line of heights to the south of us, the road now crossing an undulating plateau, with green rushes growing in its hollows.

At a quarter past eleven we went downhill through Sharperton (built of grey stone), with one house in ruins, past a field of hay just cut, and having crossed the Coquet, which here runs over a pebbly bed in a wide, pretty valley, we arrived at Holystone. After a visit to the Holystone Well [Plate XI.], surrounded by shady trees, with the clear water showing each pebble distinct upon its floor, we turned into a meadow, where the Rothbury contingent joined us, and seated on the grass we examined some very good specimens of flint implements, gathered in Coquetdale (between Rothbury and Holystone, mostly within sight of the latter), which Mr Dixon had brought with him, and explained to us. [Plates XII., XIII., and XIV.] We saw from this point the Beacon Hill, the Tosson Hills (looking south-eastward), and Rothbury on the north side of them, the Wreigh Hill with its trees and winding road to Farnham, and its associations with the "Woful Wednesday," the day when it was harried by the Scots, May 25th 1412.

The "camp" on the hill to the west of us was too far to visit, and we turned to examine Holystone Church. Thence, with a beautiful view, partly sylvan, before us, we descended towards Harbottle, whose ruined and fragmentary Castle, standing in a grand situation, leaves more scope for the imagination than for any very detailed description. It was one of four castles built, according to Hartshorne, at almost precisely the same date, the others being Prudhoe, Northampton Castle, and Peverel's Castle in the Peak, Harbottle being the latest of the four, erected at the very beginning of Henry II.'s reign, about 1155; both Harbottle and Prudhoe, structurally akin to each other, having been for a long period in possession of the Umfravilles.

A very full account of Harbottle Castle has been given by Mr George Tate in the Proceedings, Vol. v., pp. 427-437;

and from this and what Mr Dixon and Hodgson's "History of Northumberland" tell us, it may be stated here in brief that the Castle, going in earlier times with the Lordship of Redesdale, was successively in the hands of the Umfravilles, namely—(1) Odinel, 1155 (successor of Robert, "the Bearded"); (2) Richard, 1218; (3) Gilbert, 1226; (4) Gilbert, first Earl of Angus in this family, 1296; (5) Robert, second Earl of Angus, 1308; (6) Gilbert, third Earl of Angus, who died in 1381; until, in 1436, (7) Sir Robert Umfraville, Vice-Admiral of England, dying without issue, it passed to the Talbois family, where it remained down to the year 1541: thence it passed to the Crown till 1604, when it was granted to George, Lord Home, Earl of Dunbar.

Harbottle Castle is specially notable, in a matter interesting to both sides of the Border, as the scene of an event which links Scottish and English history, the Royal lines of Tudor and Stewart. Here was born in October 1515 the Lady Margaret Douglas, daughter of Margaret, the Royal widow of James IV. of Scotland, and sister of Henry VIII. of England, by her second husband, Archibald Douglas, Earl of Angus, grandson of Archibald Douglas, "Bell the Cat." This Lady Margaret Douglas, marrying Matthew Stewart, second Earl of Lennox, became the mother of Henry, Lord Darnley, the husband of Queen Mary, and father of King James VI., who was King James I. of England.

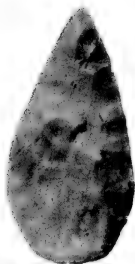
In 1614 King James I. granted the manor, lands, and castle of Harbottle to Lord Home's daughter, and to her husband, Lord Howard. After the Howards, the castle and manor came to a Widdrington, and after being subsequently purchased by the family of Clennell, were bequeathed by Percival Clennell to Thomas Fenwick of Earsdon, who took the name of Clennell, and they remain now in the family of Fenwicke-Clennell.

After the ruined castle the next point to be visited was the Norman Church of Alwinton. But members of the Club were not allowed to resume their journey until they had enjoyed the hospitality of Mr and Mrs Thomas Fenwicke-Clennell at their own house, not far from the ancient castle, and had expressed their thanks, through Canon Wilsden, to their host. On reaching the church, at about two o'clock,

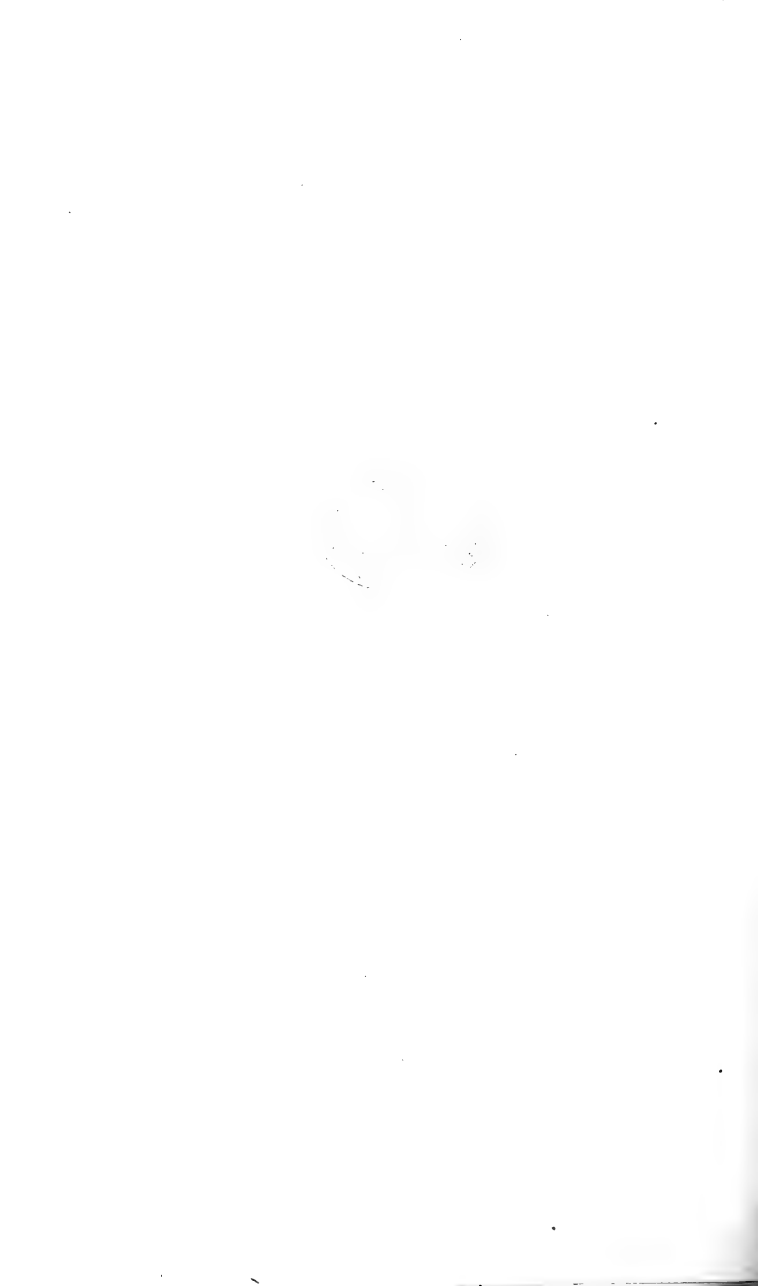


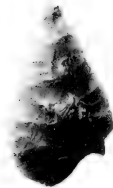
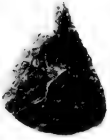
“The Lady’s Well,” formerly called “St. Ninian’s Well,” and by some
“The Well of St. Paulinus,” at Holystone.





FLINT ARROW HEADS FROM COQUETDALE
(One-seventh less than actual size).





FLINT ARROW HEADS FROM COQUETDALE
(One-seventh less than actual size).

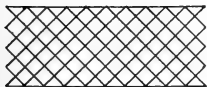




FLINT ARROW HEADS FROM COQUETDALE
(One-seventh less than actual size).



we saw how the nave has been widened by the addition of two aisles, and how the steep slope of the hill on which the church stands has called for two flights of steps within, ten steps to the chancel, thirteen to the altar. The restoring of the church was the work of the Rev. Aislabie Procter; the pillars of the north arcade are original, those of the south are re-built. Mr Dixon told us that when the vault of the chancel was opened, he himself went below the steps and saw tiers upon tiers of coffins within it. Outside the chancel, on its south-east corner, we examined a large stone at the base, which appears by its diagonal dressing to be Roman. Contiguous tombstones show names spelt in variation, thus:—Wealleans in 1868, Weelans in 1749.



Continuing our journey, after an ineffectual attempt to meet our President at Alwinton village, we climbed a long hill at a slow pace, under a burning sun, and noted the slopes above the river clothed with bright green rushes; to the north, in a hollow one mile away, Clennell bosomed in trees, and far off on the sky-line above, Kidland and its moors. Beyond Clennell there passes "Clennell Street," a prehistoric way.

At four o'clock we reached Biddleston Hall, of which Mr Dixon gives an historic notice in Appendix II.; and we saw the chapel, where thirty years ago a secret passage was discovered running the whole distance along the north wall of the present chapel, to secure a safe exit to a lower vault, in those days when the harbouring of a priest was a crime.

The proceedings ended at Whittingham, where the Club had their dinner, according to custom, before dispersing homewards after a pleasantly spent summer day.

APPENDIX I.

HOLYSTONE.

The annals of Holystone carry us back a long way in the pages of history. Here are found traces of the pre-historic Briton, the Roman occupation, the Saxon period, and relics of the Middle Ages. The pre-historic period is seen in the camps and earthwork on the sloping banks of the Coquet, and in the flint and bronze implements you have just been examining. The Roman has left his mark in the paved causeway that runs down through the moors from Rochester in Rede Water (*the Roman Station of Bremenium*), passing close to the Lady's Well, crossing the Coquet, and on to Whittingham, where it joins the Devil's Causeway. A fine piece of it is bare to this day between here and Yardhope, about a mile off. A record of Saxon times is found in the tradition of Paulinus, the Bishop, having here baptized 3000 Northumbrians at Easter.* The story of Medieval days is read in the history of the convent that once existed here; also in the sculptured grave covers in the walls of the church, and the ancient masonry in the mill buildings. For several centuries after the Conquest the whole of the lands around, west of the Coquet, were included in the great lordship of Redesdale, and were held *in capite* by the potent Umfraville. At the dissolution of monasteries several families occupied various interests in Holystone. After passing through the hands of the Selbys of Biddleston, the Dawsons of Alnwick, the Forsters of Lanternside, the Clennells of Harbottle, and Wilkinson of Sunderland, it is now in the possession of Mr F. W. Rich of Hepple Woodhouses.

HOLYSTONE PRIORY.

Of the Benedictine Priory of Holystone there remains to-day scarcely a vestige. Only in the roadways in some parts of the village, more especially near to the church, large stones

* The place-name itself denotes a Saxon origin.

are visible, evidently old foundations, from which we may infer that the church was probably within or very close to the walls of the Priory. An arch in the mill stable may be part of the domestic buildings of the Priory. At all events it is ancient. One or two place-names in the neighbourhood are distinct mementoes of the monastic age:—“*The Nuns Close*,” a field name on the adjoining farm of Low Farnham, and St. Mungo’s Well, on the south bank of Holystone burn, opposite to the church. It is of some interest to trace the route of the Glasgow Saint, Kentigern, on his way to St. Asaph’s, by the names attached to wells throughout the county. Somewhere near Wooler there is a *Mungo’s Well*; we have *St. Mungo’s Well* at Holystone, and at Simonburn, on North Tyne, there is also St. Mungo’s Well. The beautiful well at Holystone, known to us as “*The Lady’s Well*,” described in the circular calling this meeting “*The Well of St. Paulinus*,” was formerly “*St. Ninian’s Well*.” There appears, therefore, to have been from very early times a religious halo around Holystone; and no doubt the pious Umfraville of seven centuries ago, attracted by the situation and the sanctity of the spot, the abundant supply of pure water, and its close proximity to the Coquet, made choice, or probably the members of the Order made choice, of this romantic corner amid the hills of Upper Coquet for the founding of their convent. Besides the lands around Holystone, the sisterhood held gifts of land in various parts of the county, as well as houses in Newcastle. In 1429 Roger Thornton of Newcastle devised in his will one fother of lead to the nuns of Halystane. Of those black-robed nuns who lived their lives in the solitudes of the cloisters at Holystone, we have very few records indeed. No cartulary of Holystone is known to exist, therefore information is scant. We read in the Newminster Cartulary that, in 1272, an exchange of land in Coquetdale took place between Agnes, Prioress of Halistan, and Adam, the Abbot of Newminster. *Again*, in Kellow’s Register, there are letters (dated 1313) testifying “as to the miserable state of the nunnery of Halistan by reason of the hostile incursions of the Scots.” At the dissolution of religious houses, there were eight nuns at Holystone; the house was valued at £11 5s. 7d. per annum.—(Dugdale.)

HOLYSTONE CHURCH.

The Church of Holystone, consisting of nave and chancel, is dedicated to St. Mary, and is in the gift of the Lord Chancellor.

The Church Plate consists of 4 pieces:—

Chalice, 1735.

Paten, 1853.

Flagon, 1852.

Almsdish, 1853.

The bell that hangs in the cot at the west end of the gable bears the following inscription:—"To the Parish of Hallystane, the gift of Percival Clennell, Esq., deceased, A.D. 1788."

There is every reason to suppose, from structural remains, as well as from documentary evidence, that originally a Norman church stood on the present site. The lower portions of the nave walls are ancient. The original window sills are yet seen *in situ* about two feet beneath the new ones in the south wall; and built into the south wall of the chancel are three sculptured grave slabs, probably commemorating some of the princely Umfravilles, who for centuries reigned as petty kings in Coquetdale and Redesdale. On the north side of the chancel is a large stone coffin and cover, entire, found at the restoration of 1848, and this, through the pious care of the vicar, Aislabie Procter, was allowed to remain untouched. Two old headstones, having rudely cut crosses, stand in the churchyard amid others of 17th and 18th century quaintness. Several interesting tombstones lie on the floor of the church near the font. One is that of Wm. Pot, and his wife, Elinor Pot, of Farnham, one of the leading families in the parish some three centuries ago. Turbulent parishioners they must have been; one member of the family was summoned before the High Court of Commission at Durham for brawling in Alwinton Church. Another was rendered notorious by giving evidence against King Charles I. Traces of the same family are found at Hepple Woodhouses, Yardhope, Lanternside, and Sharperton. The other refers to a member of an old and honourable Northumbrian family, the Widdringtons of Widdrington. A branch of this family had possession of Cartington, one of whom was some time resident at Harbottle Castle as

deputy warden of the Marches. "Here lyeth the body of Mr Roger Widdrington, of Harbottle, dyed the 30th day of December 1671." The Widdringtons were the owners of Linsheels Farm, 2 miles above Alwinton, and in the "*Harbottle Rentals of 1618*" we find under "*Rents of Assize of Freeholders*" that Roger Widdrington, Esq., pays xviid. for Linsheels with Lathalghe, to be paid at the feast of St. Cuthbert in summer and St. Cuthbert in winter. The feast of St. Cuthbert in winter is held on the 20th of March, being the date of his death. The feast of St. Cuthbert in summer is on the 4th September, the date of the translation of his body from its temporary resting place to the *stone church* built at Durham by Bishop Aldune in 999, and dedicated to St. Cuthbert.

FLORA.

Amongst the many plants of interest found in the neighbourhood of Holystone, the following may be worthy of note. On the slopes of the sandstone hills that surround the village *Myrica*, Sweet Gale or Bog Myrtle—the *Fleawood* of the Northumbrian housewife—grows in great abundance, with here and there clumps of handsome Junipers; also *Genista anglica*, *Trientalis*, Bog Asphodel, Grass of Parnassus, Butterworts, and Sundew. In an old pasture on the ramparts of a pre-historic camp the sweet-scented *Gymnadenia*, as well as *Habenaria chlorantha*, is found amid a fine show of Wood Betony; while in a ravine below, the Oak and Beech Fern, and *erstwhile* the Harts Tongue, Cow Wheat, Melancholy Plume Thistle, and Marsh Valerian, Honeysuckle, and the lovely blooms of the Cranesbill, *Geranium sylvaticum*, are seen in endless profusion. Down in the gravel beds of the Coquet we find the Yellow Mimulus, *Reseda luteola*, *Vicia lathyroides*. On the banks and on the haughs are *Saxifraga granulata*, *Comarum palustre*, *Pyrola media*; *Malva moschata* and *Myrrhis odorata* are also found in the immediate vicinity. As for the two latter—Musk Mallow and Sweet Cicely—in Coquetdale I have only found these plants near to the sites of religious houses—Holystone, Brinkburn, and Warkworth Hermitage.

APPENDIX II.

BIDDLESTON.

Biddleston Hall, the ancient seat of the Selbys, stands on the southern slopes of the Cheviots, at an elevation of about 750 feet, guarded on the north by a deep ravine and the massive forms of Cold Law, Silverton, and Harden, all of which rise to a height of about 1300 feet. On the south the valley of the Coquet opens out to view, enclosed within the heather-clad hills of Simonside. Biddleston is thought to be the Osbaldiston of Sir Walter Scott in *Rob Roy*; be this as it may, it is a spot full of interesting associations. For a description of its flora and its other natural aspects, I may refer the members to the Report of Meetings for 1877 (Vol. XII. of the Proceedings, p. 53) by the late Dr Hardy, who, in company with our courteous guide, Mr Dodds, explored the ravine below and the hills beyond.

The history of the Manor of Biddleston is rather difficult to unravel, for, notwithstanding the oft-quoted copy of the grant of Vissard's lands to Sir Walter Selby, knight, dated 24th October 1272, by Edward I., it is somewhat puzzling and disappointing to find that there is no mention made of the Selbys in connection with Biddleston in such early documents as the Pipe Rolls, the Testa de Neville, or the Escheats as given in Hodgson's "*History of Northumberland.*" For instance, in the Testa de Neville, circa. 1272, Biddleston is recorded as a member of the Barony de Vesci of Alnwick, held by Gilbert de Umfraville of Harbottle, being one of the ten towns of Coquetdale. The others were Ingram, Fawdon, Chirmondesden, Netherton, Burradon, Farnham, Sharperton,

Clennell, and Alwinton, that rendered service to Umfraville. Again, in 1354, 1361, and 1409, part of Biddleston and the Manor of Seghill were held by the Delavals. This was probably due to the repeated confiscation of the Selby lands. The late Dr Hardy, in his "*Notes concerning the Parish of Oxnam*," in the Club's Proceedings, Vol. xi., p. 127, when speaking of Sir William Wishart of Plenderleith, states:—"From the Rolls of Scotland we ascertain that Sir Wm. Wishart was displaced by Edward Baliol, who conferred a charter of *Plenderlath*, dated 24th October 1332, on Sir Walter Selby, the second of the Selbys of Biddleston. Walter Selby the second was a daring but unprincipled man, who sold his services to the highest bidder, being, as Lord Hailes describes him, 'both a robber and a warrior, alternately plundering and defending his country.' He and Walter de Middleton were at the head of the broken men of Northumberland, who were in the pay of Robert I. of Scotland, and who at his direction waylaid at Rushyford, in 1317, two cardinals, the Pope's nuncios, and deprived them of the Bulls and secret instructions for excommunicating Scotland; and imprisoned Louis de Beaumont, Bishop elect of Durham, in Morpeth Castle, and his brother, Henry de Beaumont, in Middleton's Castle of Mitford, till they were ransomed." During the next year, 1318—Mr Bates tells us—the Scots surprised and took Mitford Castle, and entrusted it to their old ally, Walter de Selby. He, however, on promise of a full pardon from Edward II., delivered it up to Robert Umfraville, Earl of Angus. Notwithstanding this, his Manor of Seghill, held by the service of acting as steward in the hall of Tynemouth on St. Oswin's Day, continued to be confiscated. After this he espoused the quarrel of Edward Baliol, from whom he received, as already stated, the grant of the lands and tenements of Prenderlath, which he retained until 1341 or 1342, when Sir Alexander Ramsay captured Roxburgh Castle, and relieved the sheriffdom from English thralldom. In October 1342 the brave Sir Walter de Selby, refusing to surrender the "Pride" of Liddell to David II., was, after withstanding a six days' siege, taken in the storm of the castle, and ordered to instant execution. His son, James de Selby, was long detained a prisoner in Scotland, but appears

to have been the possessor of Biddleston during the reign of Richard II. (1377-1399), from whom the present owners derive their descent. In 1415 Biddleston Tower was in the possession of John Selby, and, without doubt, those hoary walls underneath whose shadows we are now assembled are the remains of the "Turris de Bidilstan of Johanness Selby" of 1415. Then again, in the list of Border Holds of 1509, Biddleston Tower, we are told, was held by John Selby and a garrison of 20 men. At the muster of able men with horse and harness, that took place on Robert's Law for Coquetdale and Redewater, in the April of 1538, there were present five Selbys of Biddleston—Perceval, Christopher, Cuthbert, Oliver, and James.

The Border Survey of 1541 says:—"At Byttilsden ys a toure and a barmekyn of the Inherytance of Percyvall Selby, esquī, in good repa'cons, and nere unto the same ys another like toure at a place called the Cotte Walles in measurable good repa'cons of the said P'cyvall Selbyes Inherytaunce." Of this tower of the Selbys the lower portion yet remains, over which has been erected the family chapel, for the Selbys of Biddleston, through all the vicissitudes of many centuries, have ever adhered to the faith of their forefathers.

Interesting mention is made of Biddleston Tower in a modern Border ballad written by the Ettrick Shepherd, which gives a description of a raid of the Kerrs of Cessford into Coquetdale, in the September of 1549.

Their armour was light, but their brands were bright,
 And their bonnets were steel across the crown,
 And whenever they spied an Englishman
 They galloped at him and put him down.

Ride light, ride light, my kinsmen true,
 Till aince the daylight close her ee';
 If we can pass the Biddleston Tower,
 A harried warden there shall be.

He reaved the best of my brothers' steeds,
 And slew his men on the Five-stane Brae;
 I'd lay my head this night in pawn
 To drive his boasted beeves away.

For at Thropton he has a goodly herd
 Just newly come frae the low countrie,
 And at Rotbury there are a hunder head
 All fat and fair on Rimside lee.

.
 The weary wounded Scots went on,
 Still with their drove, full hard bested;
 For word had gone to Biddleston tower
 That wakened the captain from his bed.

He mounted his horse and galloped forth,
 His troopers gathering at the word;
 And the first man that he met with
 Was burly Tam of Mossburnford.

Turn, Captain of Biddleston, turn and flee!
 Thy arm was never a match for mine,
 I'll hold at bay thy men and thee
 Till I'm across the Border line.

There shalt thou never be again,
 Thou miscreated burly bear;
 Have at thee now, for fight or feign,
 I'll have thy head upon this spear.

He rode at Tam wi' furious aim,
 Thinking to run his body through,
 But little dream'd of the left hand skelp
 That *nickit* the captain clean in two.

The Selbys were invariably mixed up in all Border troubles, and few of the heads of the house died in their beds. In the great civil war they espoused the cause of Charles I., for which they suffered heavily by fines and sequestrations; while in the Jacobite Rising of 1715 they were found in the thick of it, along with their friends the Collingwoods of Eslington, the Claverings of Callaly, the Talbots of Cartington, and other Northumbrian families. On the afternoon of Friday, October 6th 1715, Ephram Selby of Biddleston and his steward were amongst the Coquetdale men who met

the Earl of Derwentwater and the Tynedale Jacobites on Plainfield Moor.

During the French War, at the beginning of the last century, the name of Thos. Selby appears as captain of a troop in the Royal Cheviot Legion Cavalry in 1803; in 1805 he was captain in the Coquetdale Rangers, a body of volunteer cavalry raised in this district. Whilst still keeping up the traditions of this old Border family, it was only the other day that another Thos. Selby of the Northumberland Hussars, the great grandson of Captain Thos. Selby of the Coquetdale Rangers, received the war medal for service rendered at the front, in the ranks of the Imperial Light Horse, during the present African campaign.

The black and yellow of the Selbys is a well known livery in Coquetdale, their Coat of Arms being "Barry of Five, Or and Sable"; their Crest a Saracen's head.

SPRINGWOOD PARK, KELSO; KIRKBANK; SUNLAWS; ECKFORD;
MARLEFIELD; AND LINTON.

THE FOURTH MEETING of the year was held on the 14th August, and began with a visit, at the President's invitation, to Springwood Park. The names of members and friends who there assembled are as follows:—Sir George B. Douglas, Bart., President, Miss Douglas, and Mr Francis Douglas; Colonel Milne Home, Organizing Secretary; Mr G. G. Butler, Editing Secretary; Mr Robert Blair, F.S.A., South Shields; Rev. J. Burleigh, Ednam; Mr J. L. Campbell Swinton, Kimmerghame; Mr John Cairns, Alnwick; Mr Robert Carmichael and Miss Carmichael, Coldstream; Mrs Caverhill, Jedburgh; Mr J. Scott Dudgeon, Longnewton; Captain Forbes, R.N., Berwick; Mr John Ford, Duns; Mr George Fortune, Duns; Dr R. Shirra Gibb, Boon; Mr Arthur Giles, Edinburgh; Mr J. C. Hodgson, Alnwick; Mr Hindmarsh, Alnwick; Rev. Joseph Hunter, F.S.A. (Scot.), Cockburnspath; Dr J. Carlyle Johnston, Melrose; Mr William Little, Galashiels; Mr Francis Lynn, F.S.A. (Scot.), Galashiels; Captain D. Milne Home, Miss Milne Home, and Miss G. S. Milne Home, Caldra; Captain Norman, R.N., Berwick; Mr and Mrs H. Paton, Edinburgh; Mr H. Rutherford, Fairnington; Mr and Mrs Ralph Richardson, Gattonside House; Major Romanes; Mrs and Miss Romanes, Harewood Glen, Selkirk; Mr H. H. Ratcliffe; Mr R. Colley Smith, Ormiston; Mr William Steele, F.S.A. (Scot.), Kelso; Mr R. Stephenson, Chapel, Duns; Mr John Turnbull, Galashiels; Mr D. McB. Watson, Hawick; Rev. Canon Wilsden, Wooler; Mr Joseph Wilson, Duns.

Each member, thanks to the forethought of the President, came provided with a printed paper containing "A Few Notes on Springwood," written for this purpose by Sir George Douglas, and these notes, here reprinted, leave but little remaining to be said in regard to what we saw within house and park.

As the members of the Club entered the hall they saw before them a fine collection of ancient and modern swords, as well as the war trophies secured by the members of the Douglas family in other countries. Then, in the billiard room, which contains also a library, Sir George had laid out for inspection some first editions (quarto) of Sir Walter Scott's poems in the original bindings; a "Journal" kept by Lieut. Jas. Douglas while on board H.M.S. Ipswich from 28th September 1734 to 14th January 1739; a quaint picture of Springwood with Floors Castle, Stichill, and Kelso in the background (believed to be 150 years old); an old water-colour sketch of Kelso Market Place; a stone axe found at Oxnam Row; and, of particular interest, the quaich that belonged to the Ettrick Shepherd, and was presented to Sir George by the Shepherd's daughter. Mr Stephenson, of Chapel, showed us a very neat flint arrow head, not barbed, which his gardener had found while digging at the farm of Primrose Hill near Bunkle, at about 5 inches below the surface.

A FEW NOTES ON SPRINGWOOD.

After leaving the railway station, a noticeable object is the Big Tree at Maxwellheugh. It is a Black Italian Poplar, measuring 21 feet in circumference at 5 feet from the ground. In 1859 its height was 92 feet. Speaking of this tree, Mr Swan, writer in Kelso, who died in old age several years ago, was used to say that an aged uncle had told him that throughout his life he had never known any difference in the size of the Big Tree. This would imply that it was much the same a hundred and twenty years ago as now. Tradition traces it to a walking stick cut by a Maxwellheugh man to walk with to St. Boswell's Fair, and on his return stuck into the ground, where it took root and grew. In 1902 this tree had unfortunately to be taken down, having become a source of danger to the neighbouring highroad and houses.

Admire the view of Kelso—"the most beautiful, if not the most romantic village in Scotland"*—where the feeling for natural beauty was first awakened in the breast of the boy Walter Scott. "It presents objects, not only grand in themselves, but venerable from their association. The meeting of two superb rivers, the Tweed and the Teviot, both renowned in song, the ruins of an ancient Abbey, etc."*

The archway at entrance to park was erected in 1822, from a design by Gillespie Grahame.

The bank on the left, or south, side of the coach-road bears evidence of having been at some pre-historic period "water-washed," *i.e.* the bank of a river, which has altered its course and level. The field on the other side of the road is alluvial deposit, and is famous for the quality of its grazing.

The disused churchyard within the field was that attached to the village of Maxwell, which formerly occupied this site. The surrounding land was granted by David the First to Maccus, son of Undewyn,† a trusted follower, whose name had appeared as a witness to the *Inquisitio Davidis*, in 1116.‡ The land thus granted may perhaps be considered as the cradle of the Maxwell family in Scotland.

A small enclosure not far from the churchyard marks the site of the old mansion-house of Brig-end, the property of Sir William Ker of Greenhead, from whose family the estate was acquired by James Douglas in 1750. The house of Brig-end had been destroyed by fire in 1714, under somewhat romantic circumstances, the burning being an act of revenge on the part of some gipsies, who considered that they had been hardly used by Sir William, in his capacity as Justice of Peace. For their share in the crime, eight persons—six of them women—were transported to the American plantations, whilst the supposed instigator, Patrick Faa, had in addition his ears cut off, and was scourged and pilloried in the street of Jedburgh.

In the Chapel park, three beech trees and a modern inscribed stone mark the site of an oratory dedicated to St. Thomas the

* Autobiography of Scott, prefixed to Lockhart's Life.

† Jeffrey's Roxburghshire, vol. iii., p. 178.

‡ Registrum Episcopatus Glasguensis, p. 5.

Martyr (Becket), which was erected by Herbert de Maccuswel early in the thirteenth century (not the twelfth, as stated on the stone), and endowed with the adjoining lands. It was destroyed by the English in Hertford's dragoonade of 1545.

The mansion-house is a mediocre specimen of the Palladian style. The original building, of which the present south-eastern elevation formed the façade, was completed in 1756, and paid for largely out of prize-money. It was added to in 1852. In the dining room is a portrait of Admiral Sir James Douglas, 1704-87, the founder of this branch of the family. He was the second of twenty children of George Douglas of Friarshaw, co. Roxburgh, who was sixth in direct descent from Jas. Douglas, knight, fifth of Cavers, Sheriff of Teviotdale. He served with distinction in the war with France which followed the rupture of the Treaty of Aix-la-Chapelle, 1754, and arose out of questions as to boundaries and neutralities in the New World.* In 1759 he was on service at Quebec when the reduction of that town opened Canada to British occupation, and was knighted for bringing home despatches announcing the victory. Of more living interest is the possibility that he may have been a listener to Wolfe's histrionic recitation from Gray's "Elegy," and subsequent nobly generous comparison of the poet and himself. In 1761 Sir James commanded a fleet in the Leeward Islands, and with Lord Rollo captured Dominica, which had been captured by the French in defiance of a Declaration of Neutrality. In 1762 he was second in command of the fleet at the capture of Havana, a victory represented in the large painting which hangs next to his portrait. Havana was restored to Spain next year. I regret to add that he formed one of the Court-Martial (1756) which sentenced Admiral Byng to death—in the cynical phrase of Voltaire's *Candide*, first used in reference to that incident, "*pour encourager les autres.*" He was created a Baronet in 1786, in consideration of naval services. He is represented wearing an admiral's uniform of the Nelson period. Among other paintings in this room are four portraits by Allan Ramsay, son of "honest Allan," and Court Painter to

* Dyer's *Modern Europe*, vol. iii., p. 294.

George the Third. One of these represents Albinia Panton, Duchess of Ancaster, Mistress of the Robes to Caroline, Queen of George the Second. Horace Walpole maliciously describes her as a Newmarket horse-jockey's daughter. Her father became Master of Running Horses to the King. She is referred to in Spence's "Anecdotes." She married a Douglas as her second husband, and died in 1745. A game-piece by Jan Weenix, 1621-60, is considered a good example of Dutch finesse in the rendering of fur and feathers. The principal dead bird is a sheldrake; the members of the Club are invited to identify the rest.

In the billiard-room the charming portrait of Miss Scott of Belford (afterwards wife of Sir John Scott-Douglas) as a child, is by Harlow, a disciple of Sir Joshua Reynolds. The picture over the fire-place represents the Challenge of Barletta, 1503, an incident in Italian knightly history, which forms the basis of D'Azeglio's famous novel of *Ettore Fieramosca*. The painting is a notable example of modern Italian artistic degeneracy, and is greatly admired by those who have no eye for line, colour, composition, or chiaroscuro. In the drawing-room, the full-length portrait of Sir John James Scott-Douglas, 1792-1836, represents the last (unfinished) work of Sir Henry Raeburn, died 1823. The head is painted in his best manner. Sir John is represented in the uniform of the 15th (the King's) Hussars, in which he served at Waterloo. Other paintings in this room are Mrs Opie, author of the *Moral Tales*, by her husband, John Opie; Sir George H. Scott Douglas in yachting dress, and Lady Scott Douglas in a Spanish dress, by Count Boratinsky; Miss Scott Douglas, by Buckner; A Dairy-maid, by Graham Gilbert, the Scots Venetian. In the library is a head of the Black Douglas, the companion of Robert Bruce, killed in Spain in 1330. It is a copy of a painting at Kinmont. It is scarcely likely that portraits were painted in Scotland in the fourteenth century, but this representation of "the Good Sir James" has at least the merit of corresponding with the likeness sketched by Barbour from hearsay at first hand.

From the foot of the Green Walk, a view is obtained of the ruins of Roxburgh Castle, at the siege of which in 1460 was killed James the Second—described in the following year

by the vagabond poet Villon in his "Grand Testament" as,

..... "le roy Scotiste,
Qui demy-face eut, ce dit-on,
Vermeille comme une amathiste
Depuis le front jusqu' au menton."

Crossing the river, opposite the flower garden gate, may be traced the line of a dam, said to have been used to fill the moat of Roxburgh Castle. If this was so, there has been great alteration in ground levels.

The pasture-field of Old Maisondieu, further up the river, was the site of a charitable establishment—possibly a lazaret-house—a dependency, in monastic days, from Kelso Abbey. Outlines of the buildings are still roughly traceable.

G. DOUGLAS.

August 1901.

Leaving the house under the guidance of Sir George Douglas, we proceeded to the gardens, which, notwithstanding recent severe rains, were found to be in beautiful order. The fine flower-beds, and not less the woods, which contain many noteworthy trees, were greatly admired. A section of the members inspected the site of the old chapel, which is marked by a stone carrying the inscription—'This stone marks the site of an oratory, dedicated to St. Thomas the Martyr, erected early in the XIIth Century, and endowed by Herbert de Maccuswel with the adjoining lands. The chapel was destroyed by the English under the Earl of Hertford in 1545.' A number of us also proceeded along the beautiful Green Walk, at the end of which is the mausoleum of the Springwood family. On the opposite side of the Teviot a fine glimpse is obtained of the ruins of the ancient castle of Roxburgh, which in its palmy days was the main feature of the ancient town of that name, lying between the fortress and the confluence of Tweed and Teviot, but of which barely a vestige now remains. The castle, built on a tabular rock rising 40 feet from the level of the plain, is supposed to have been erected by the Saxons while they held sovereignty of the kingdom of Northumberland. It was for long a most important

fortress, a royal residence, and a centre of strife. A few detached fragments of the outer walls are all that remain of the once powerful stronghold.

It was intended that the party should walk by the riverside to Roxburgh, and, crossing the bridge there, to glance at the Wallace Tower and the grave of "Edie Ochiltree" in Roxburgh Churchyard.* However, owing to the rain, this had to be abandoned, and they drove direct from Springwood to Sunlaws House, the seat of Major Scott Ker, who was at this time on active service in South Africa. The tenant, Mr W. Campbell, K.C., and Mrs Campbell, joined the party here, on a visit to the caves in the steep bank of the Teviot close by. Mr R. T. Rae, the estate manager, guided the visitors down the tortuous paths to the river side. Here were two caves, each seven yards long, of apparently artificial excavation, in Teviot bank steep and grand, the feathery foliage of its trees overshadowing the brown foam-flecked water below; other smaller inchoate caverns were also seen, about one-third way up the bank. At the mouth of the cavern known as the "Horse Cave," Sir George Douglas said:—"These caves are certainly artificial, it being quite impossible to account for their existence by any geological or other natural cause. The reasons for supposing them to be *pre-historic* may be resumed as follows:—Diodorus Siculus, an historian of the period of Julius Cæsar and Augustus, tells us that the natives of Britain were used to seek refuge from their enemies by concealing themselves in caves. There are caves similar to these caves at Kingscaur, in Yorkshire, which, on being examined, have yielded pre-historic implements and ornaments, on which subject I refer you to a picturesque passage in the 'Making of England,' by the late John Richard Green. So far as I know, the floors of these Sunlaws caves have never been examined systematically. Were they

* The Rev. David Paul, LL.D., who was unable to attend this meeting, wrote to Sir George Douglas, saying:—"A short time before I left Roxburgh I communicated to Messrs A. & C. Black all the information I could obtain at Roxburgh regarding Edie Ochiltree. They considered it interesting, and promised to insert it in the notes to their next addition of the Antiquary. There is no doubt whatever that he was buried where the stone in Roxburgh Churchyard indicates."

subjected to examination, it is possible that they might still yield a deposit similar to that of the Yorkshire caves. I must acknowledge, however, that the caves of similar character at Crailing, which have been examined, have only yielded articles of much later date, suggesting that they have been occupied as hiding-places during the Religious Troubles of the 17th century. On the other hand, at Sunlaws, traces of pre-historic burials—in the form of two stone coffins, one of which contained a cinerary urn—were discovered in the adjoining field, quarter of a mile off, some five and twenty years ago. By the orders of the late laird, these coffins were left undisturbed. To sum up, I think we may be safe in pronouncing these caves pre-historic, and in considering them, along with the incised stones which may be seen in Northumberland, as amongst the most ancient relics of man existent in the Border country. Coming down to later uses to which these caves have been put, one of them, known as 'Lady Chatto's Dove-cot,' is said to have been used as such by Christian Kerr, born about 1685, who succeeded to her father in 1721 as heiress of Sunlaws and Chatto. The 'Horse Cave' was used for concealing horses likely to be commandeered by Prince Charlie, at the time of his march through this part of the country in 1745. Similarly the 'Bransholm MS. Book,' the property of Charles Grieve, Esq., of Bransholm, records that the horses on that estate were sent out of the way when a visit from the Prince was expected."

From the caves, still under the guidance of Mr R. T. Rae, we passed through the extensive and pretty gardens of Sunlaws; and then rejoining the carriages continued the drive to Eckford, where the first object of interest was Kirkbank House, an early residence of the well-known Border poetess, Lady John Scott. Mr George Borthwick conducted us through the house, which is very dilapidated, but its situation is picturesque, and we were glad to hear that it is the intention of the Duke of Buccleuch to repair and rebuild it. The front drawing room window is curious, being so made as to afford different views of the valley of the Kale, and from this window our attention was called to a torch-holder in the cleft of a tree near by. It was explained that the holder was placed there by

Lord John himself, after his last salmon leistering expedition. Much interesting information was given regarding the gifted Lady John, whose sympathies, even if eccentric, were certainly wide enough to include all classes, and whose love for the old ways, especially the old Scotch Border ways, was only equalled by her strong Jacobite leaning. Sir George Douglas, who was most active during the day in securing that nothing of interest missed observation, pointed out her Ladyship's bower in the garden, and remarked that it was specially built for her so that when in the mood she might enjoy, uninterrupted, her favourite view of the valley, which stretches away towards the Cheviots. Growing luxuriantly beside the bower is Lady John's favourite rose bush.

Adjoining Kirkbank grounds is the Church of Eckford, which was next visited. This is a 17th century building. Two or three years ago it was renovated, resealed, and repainted, and underwent some slight structural alterations. On entering the churchyard the first object noticed was the resurrectionist watch-tower, which takes one back to the time when body-snatching was rampant. Here we were met by the minister of the parish, the Rev. C. L. McLaren, who was so good as to lay out for our inspection some interesting relics of the past. These included the flint-lock gun which was used by those who kept watch in the tower by the gate during the exciting resurrectionist times, the bell used by the crier to acquaint people of the time of funerals, and the old money-box, with tokens and very old kirk session records. Hanging on the church walls, too, there are still to be seen the "halsfang" or "jougs"—a necklace for serious misdemeanants, well described as a relic of ecclesiastical barbarism. Dr Carlyle Johnston was the only one in the company tall enough to demonstrate the use of the halsfang. In the church Mr McLaren gave a short historical sketch, and he said he did so with considerable diffidence, seeing that the company included one who was so much better qualified. He alluded to Sir George Douglas, the author of an invaluable history of the Border counties, by whom he was willing to be corrected.

It was, in his opinion, an established fact that there had been a church on or near this site since the beginning of

the thirteenth century, and the first notice of that church was, he thought, the burning of it in one of the English raids in the middle of the sixteenth century. At that time the bell was carried away, and it was said to be hung in the tower, or steeple, or belfry of Carham Church. He had heard a slight variation of that story, the resting-place of the bell being given as Norham, but wherever it was, if any member of the Club could succeed in tracing it, he would be exceedingly pleased to try and get it back, if only for the reason—it was not the sole reason—that Eckford badly needed a new bell. The present church of Eckford dates back to 1665 or 1668—he had seen 1665 given in print, but on the dial at the doorway the date is 1668. From time to time it has undergone various alterations and renovations, the latest being after he came to the parish, four or five years ago. The pulpit then stood in the centre of the church, and there was a broad passage flanked on either side by old box pews. It is probably well known that the habit of communicating in the pews in the Scotch Church is comparatively recent. In olden days a long table was set in the broad passage, and the officiating clergyman took his seat at the head of the table. Perhaps the most interesting property of the church consists of three minute books, dating from 1694 to 1754, but before quoting therefrom it is perhaps worth noting the list of ministers since the Reformation. Previous to the Reformation the church belonged to Jedburgh Abbey. Afterwards, from 1572 to 1591, it was supplied by John Clerk, reader. The first appointed minister was Andrew Clayhills, who was settled in 1593, and went to Monifieth in 1599. Succeeding him were—Patrick Urquhart, went to Lindean in 1605; John Boyle, appointed 1608, and left 1609; Thomas Abernethie, appointed 1610, died 1640; Robert Mairtine, settled 1641, died 1665; William Turnbull, settled 1666, ceased (probably from death) 1677; William Nasmyth, settled 1678, deprived 1689 for not praying for William and Mary, but for restoration of James VII.; James Noble, settled 1694, died 1739; John Johnston, settled 1731, died 1754; William Paton, settled 1755, died 1807; James Young, settled 1807, died 1822; George Gray, settled 1822, and went to Maybole in 1828; Joseph Yair, ordained 7th May 1829, and

continued minister of the parish for the long period of 63 years. Then followed the late Mr Gillespie, who was succeeded by himself (Mr McLaren). Referring to the old minutes, he said it was on record, July 16th 1696, that an effort was being made to celebrate the Sacrament of the Lord's Supper, which had not been done in the parish for 36 years previously. There was something there of a hint at Episcopacy. James Noble, who wrote or dictated the minute, belonged to the extreme evangelical party in the Church, and he would doubtless refuse to follow in the footsteps of William Turnbull or William Nasmyth, who both conformed to Episcopacy. Noble jumped over all the years of their ministry, and went back to the time of Robert Mairtine, who, according to Mr McLaren's view, was the last to preach the gospel pure and undefiled in the kirk of Eckford. In confirmation of his interpretation of the minute, he pointed out that at the foot of the stone erected on the wall of the church to the memory of his wife or daughter, Mr Noble had had cut the name and date of the death of Robert Mairtine. It has been said that William Turnbull was buried in Eckford churchyard, but there is no trace of his resting-place. The Sacrament referred to was duly observed, and the officiating clergymen were Semple, Jedburgh; Williamson, West Kirk, Edinburgh; Guthrie, Oxnam; Boreland, Bedrule; Thomson, Ednam (the father of the poet of "The Seasons"); Cranstoun, Crailing; and Liber(?), Hownam. Mr McLaren showed us the minute books of the years 1694 to 1754; where, under date March 9th 1718, there was mention of an account of one pound ten (Scots) "for the joughs put up at the kirk door." And he quoted one quaint entry, which, with unconscious humour, stated that a fast-day was ordained "for the excessive drought and many other besetting sins of the parish." Amongst the tokens exhibited, the oldest was marked

on one side,

ECK FORD

; on the other,

16 96

In the Marlefield room, adjoining the church, and leading to the heritors' gallery, attention was called to the texts

printed on the walls. Mr McLaren explained that one of the ministers had an amanuensis, who took notes of the sermons, and inscribed the texts* as we saw them.

During the walk around the churchyard we observed the remains of old stones. In the heap was a grave cover, with what appeared to be a representation of a guild cross and pair of shears, etc. There was much speculation as to the meaning of the carvings, and Mr Lynn, whose opinion was that the stone must date back to the thirteenth century, urged that something should be done for its preservation.

Seats being once more taken, the carriages were soon moving along the road to Marlefield House, where we were heartily welcomed by Mr and Mrs Athol S. Hay. This fine old place was the home of Sir William Bennet, the intimate friend of the poets James Thomson (author of "The Seasons") and Allan Ramsay, who visited him there, and drew inspiration from the natural beauties around. Sir William has been deemed by some to be the prototype of Ramsay's "Sir William Worthy." Though Mr Hay, when he purchased the estate some years ago, made certain alterations, the old character of the house is wonderfully well preserved. Over the entrance are still to be seen the Bennet arms, and Mr Hay quoted the opinion that the centre part of the house was perhaps 200 years older than the wings. It had been discovered during alterations that no lime had been used in the construction of this old part, but only hair and mud. This, and the great thickness of the walls, would indicate that the house was originally a tower or stronghold. The broad staircase inside is believed to have been built by Sir Christopher Wren. Our short visit to the gardens was made under the guidance of Mr Robertson. Wealth of timber distinguishes the Marlefield estate, and the rows of stately beech and lime trees are admirable.

In this vicinity, but lower down the Kale, is the estate of Haughhead, which, in Charles II.'s reign, was in possession of that zealous Covenanter Hobbie or Henry Hall, and there is a deep ravine where the persecuted people used to assemble for worship. Still further down the river are several artificial

* Some of these "texts" are from the Odes of Horace!

caves, similar to those at Sunlaws, in which they sought a hiding-place in times of threatened danger.

Upon a stone which we passed on the road to Marlefield is this inscription, which Sir G. Douglas has copied:—

Here Hobby Hall boldly maintain'd his right,
Gain'st reef* plain force armed with lawless might;
For Twenty Pleugh's harnes'd in all their Gear,
Could not his valient nobl Heart make Fear,
But with his sword he cut the formost Soam
In two, Hence drove both Pleugh's and Pleugh-Men home.

1620.

Cessford Castle had been arranged as the next point of call, which prior to 1650 was the residence of the Roxburgh family, and had previously been assaulted and taken by Surrey in 1523, and destroyed by Hertford in 1545, and was said to have served later on as a prison for Covenanters; but time did not permit of a visit to the interesting ruin, and the drive was continued through the village of Morebattle to Linton Church. The Rev. J. F. Leishman and Mrs Leishman received us at the manse, and within the church Mr Leishman, at the request of the Secretary and on behalf of his father, Rev. Dr Leishman, who did not join us until later, gave a short statement regarding the antiquities of Linton. He said:—The castle and barony of Linton first emerged into the clear light of history in the days of William the Lion, when Walter de Somerville bestowed a grant of laud to endow the rectory of Linton. This old race of the Somervilles—now an extinct peerage—played an important part in our early annals. For over two centuries and a half they inhabited the castle hard by, and were buried on this mound so late as 1426. We find Thomas, Lord Somerville, causing “repair the kirk and quier of Linton and the tower.” But, by the close of the 15th century, the Somervilles have vanished to their Lanarkshire estates, and Linton is in the hands of the Kers, an offshoot of the Cessford family. For the next two centuries they figure prominently in Border history. In 1502, *e.g.*, we find James Ker acting as surety for a band of Border

* “Reef” is robbery; the noun corresponding to the verb to reeve.

thieves who had been caught sheep-lifting in Tweeddale. On 20th July 1522, the English Warden made a raid into Teviotdale with 2000 men, and burnt Linton Tower down to the "bare stane walls." Notwithstanding, all the men that were within, which were 16, were saved by lying close behind the stone gable and the battlements till the roof fell in, when their enemies left them—all except one, Robin Carr, "which came down on a rope when the house was first fired." We find other references to the family history till about the end of the 17th century, when the barony came by purchase into the hands of the old Border family of Pringle. They it was, apparently, who repaired the present church, and gifted the communion cups and the church bell—one of the finest toned in the neighbourhood. It bears the date 1687. From the Pringles the barony descended, as heir of entail, to the father of the present proprietor, Mr R. H. Elliot. No stone of the old castle now remains above ground, but the general line of the fortifications is clearly traceable, and a deep hollow marking where the dungeon lay. As regards the churchyard, the mound of pure sand of which it is composed, legend says, was riddled by two sisters as a penance to save the life of their brother, who had slain a priest. Not being a geologist, I would not venture to give any decided opinion as to its origin and structure, only a similar kaim of sand exists at Haughhead Kipp, and its formation is generally ascribed to some form of wind and water action, the whole basin of this valley having been, as is well known, once covered with an extensive loch, the last portion of which was only drained quite recently. The gravestones are none of them of surpassing interest, the friable character of the stone generally used in this neighbourhood making the inscriptions unfortunately very short-lived. Still, we know that not a few illustrious men lie buried here, besides several Baron Somervilles and a long line of Kers of Linton and Kers of Graden—an ancient Jacobite family who were attainted, and forfeited their estate for the share Colonel Henry Ker took in the rising of 1745, when he acted as Quarter-Master-General to the Prince's army. One interesting tomb is that of the Pringles of Blakelaw, who emigrated to the Cape in 1820. Here is buried the mother of Thomas Pringle, the African poet, author of "Afar

in the Desert" (and other poems), described by so good a judge as Coleridge as "one of the two or three most perfect lyric poems in our language." Another tomb—quite modern, but well worthy of attention—is the mausoleum and Iona cross erected over the head of Thomas, 16th Lord Trimlestone, the stone railing being copied from the top of Jedburgh Abbey. As to ecclesiastical monuments, the most interesting, perhaps, is the ancient Norman font. It had undergone many vicissitudes till, by the courtesy of the late Mr Elliot, it was restored in 1861 to its rightful place of honour in the sanctuary, and is now once more in use.—Mr Leishman also gave an interesting sketch of the ministers who had served in the church since the Reformation. Outside the church our attention was called to the broken lid of an ancient stone coffin, and, lastly, to the famous Somerville stone set over the church door.

After walking round the churchyard we moved across to Clifton Park, where Mr R. H. and the Hon. Mrs Elliot kindly welcomed us. The gardens were looking well, in spite of heavy rain, and within were to be seen some of Mr Elliot's sporting trophies—tiger skins. The present mansion was built about fifty years ago, and is situated midway between the sites of its predecessors.

The carriages were now summoned, and Kelso was reached after a day enjoyably spent, in the face of adverse weather. The Club dined at the Cross Keys Hotel, and Sir George Douglas, from the chair, gave the accustomed toasts.

APPENDIX.

*Notes upon Eckford Church, etc. By the
Rev. C. L. McLaren.*

CHURCH.

There has been a church on or near the present site since the beginning of the thirteenth century at least.

In the middle of the sixteenth century the church was burned by a party of English raiders, who carried off the bell and hung it in the tower of Carham Church. A variation of this tradition gives Norham Church as the place to which the bell was carried.

The present building was erected between 1665 and 1668. It has undergone various alterations from time to time, the most recent being in 1898. When the walls were stripped, on the inside a number of rudely sculptured stones were seen, which had evidently been taken from an older building.

The Marlefield aisle, on the north side of the church, was built by Sir William Bennet, of Marlefield, in the year 1722. It contains, underneath, a vault, and above this a private gallery opening into the church, also two retiring rooms. It has been said that the vault contains the body of Sir William Bennet; but, when the vault was opened three years ago, no traces of interment were found. The larger of the two rooms was used as a luncheon or retiring room between the services. On its walls are a number of texts, Latin quotations, etc. There is a tradition to the effect that Sir William had a secretary, part of whose duty it was to take notes of the sermon and to extend these afterwards in this room. It is said that he painted these texts upon the walls.

The inscription upon the board outside, which covers the entrance to the vault, is as follows:—

“HOC MONUMENTUM SIBI ET SUIS, BENE MERENTIBUS, PONENDUM
CURAVIT, DOMINUS GULIELMUS BENNET EQUES AURATUS,
ANNO SALUTIS, 1724.”

In the aisle may be seen also the ancient hatchment of the family, painted upon canvas, and framed in wood—with their motto, “Benedictus qui tollit crucem.” This formerly surmounted the front of the gallery.

WATCH TOWER.

This was built by the parishioners in the times of “the resurrectionists.” At one time the watchers seem to have been given overmuch to conviviality—fortifying themselves with “Dutch courage” against the shadowy leaves of the kirkyard. For I recollect seeing in the heritors’ minute-books a threat that if the watchers did not behave themselves better when on duty, they (the heritors) would cause the tower to be demolished.

FLINT-LOCK GUN.

There is in the manse an old flint-lock gun—a short, light, single barrel, smooth bore—which was used by the watchers. For a legend of this watch-tower see Sir George Douglas’s “Border Tales.”

Box.

There is also the old money-box of the church, used more recently for holding the tokens.

TOKENS.

These were in use until 1892. There are four sets—1696, 1702, 1728, 1735. They are of lead. The 1696 set was made by “John Johnstone in Ednam,” who received, as payment, £7 Scots money.

COMMUNION CUPS.

These are two in number, and of solid silver. They were provided by the heritors in 1791.

JOUGS.

The iron collar is in good preservation. It remains where it was found in 1718; but the doorway, near which it was hung, was bricked up during the recent alterations. In the

collection of "Border Tales," mentioned above, Sir George has preserved a gruesome tale in connection with the joughs of Eckford. In the minute-book of the kirk session, under January 3rd 1718, it appears that three elders were "appointed to inform themselves of some boys, who made disturbance in the loft by falling a fighting in the time of sermon, and other miscarriages through some other Sabbath days, and to report to the next session."

This they did, and the offenders were summoned before the session.

They appeared, all save one, at a meeting held in Eckford Kirk, on February 23rd 1718. "Being interrogat if they did make that disturbance in the time of sermon, they confessed, whereupon the session judged it proper to give them a sessionall rebuk, with certification of being censured with a censur of a hyer natur, if they should be found guilty again of the leuk evil, and ordered the joughs to be made, and put up at the church door."

Extract from account book of kirk session: 1718, March 9th:—"For jugs putting up at the kirk door, £1 10s." (Scots money.)

I can find no positive proof that "the joughs" were ever used here. In discipline cases the offenders were sentenced to appear "in the place of public repentance," or "on the repentance stool," or "pillar." There are two or three cases in which the offender had to stand at the church door "in saccloath," but, so far as I am aware, there is no distinct reference to "the joughs."

KIRK SESSION RECORDS.

We have in our possession the minute and account books of the kirk session, from 1694 to 1754.

"DEID-BELL."

This is a hand-bell which was formerly in use by the beadle, when intimating hours of funerals, etc.

GORDON, FOR SPOTTISWOODE.

THE FIFTH MEETING took place on Wednesday, 18th September 1901, at Gordon, for the purpose of visiting Spottiswoode, the home of Lady John Scott; and afterwards of seeing Wedderlie House, and also the old church at Westruther, containing Lady John Scott's tomb and those of others of the family.

The weather was fair, and there was a large attendance of members and friends, namely:—Sir George B. Douglas, Bart., President; Mr G. G. Butler, Editing Secretary; Colonel David Milne Home, Organizing Secretary; Mr W. Boyd, Faldonside; Colonel and Miss Brown, Longformacus; Mr Robert Brown, Todlaw; Rev. John Burleigh, Ednam; Mr John Caverhill, Jedneuk; Mr John Cochrane, Galashiels; Mr Kenneth Cochrane, Galashiels; Miss Cameron, Duns; Mr P. Stormonth Darling, Kelso; Mr W. Dunn, Redden Hall; Mr Allan A. Falconer, Duns; Bailie Ford, Duns; Mr G. Fortune, Kilmeny; Dr R. Shirra Gibb and Mr Andrew Shirra Gibb, Boon; Mr Arthur Giles, Edinburgh; Mr J. G. Goodchild, Edinburgh; Mr A. Grieve, Lauder; Mr J. B. Gunn and Mrs Gunn, Edinburgh; Mr George Henderson and Mrs Henderson, Upper Keith; Mr J. Henderson, Cork; Mr Thos. Henderson, Baillieknowe; Rev. David Hunter, D.D., Galashiels; Rev. Joseph Hunter, Cockburnspath; Dr and Mrs J. Carlyle Johnston, Melrose; Mr David and Miss J. Leitch, Greenlaw; Mr W. Lockie; Mr F. Lynn, Galashiels; Mr T. P. and Mr A. C. Milne Home, and the Misses Milne Home, Caldra; Mr William Maddan, Berwick; Dr J. Marr, Greenlaw; Major J. F. Macpherson, Edinburgh; Rev. J. Muirhead, Westruther; Mr G. G. Napier, Glasgow; Capt. F. M. Norman, R.N., Berwick; Mr George Nisbet, Rumbleton; Mr and Mrs Ralph Richardson, Gattonside House; Mrs

Robson; Dr Skinner, Lauder; Mr Andrew Smith and Mrs Smith, Whitehester; Mr J. A. Somervail, Hoselaw; Rev. G. W. Sprott, D.D., North Berwick; Mr and Misses Stephenson, Chapel; Mr A. M. Small, Melrose; Mr A. Thomson, Galashiels; Mr John Turnbull, Galashiels; Mr D. McB. Watson, Hawick; Mr Joseph Wilson, Duns; Dr J. Wood (Mus. Doc.), Mrs and Miss Wood, Exeter.

It had been arranged that most of the time of this meeting should be occupied at Spottiswoode, which possessed special interest as having been the much-loved home of the Club's revered member, the late Lady John Scott, during her long widowhood, till the day of her death. Mr Walter Lookie, formerly schoolmaster in Lady John Scott's school, had consented to conduct the party, and Mr and Mrs W. H. Verdin, who had newly become tenants of Spottiswoode, kindly offered the Club full facilities for visiting house and grounds. On the way to Spottiswoode House, Thornydykes lay conveniently for a passing inspection, and later in the day Wedderlie and Westruther were to be objects of this day's excursion.

Assembling, therefore, at Gordon Station in the early forenoon, we started, a procession of seven horse vehicles and five cycles, passing between Green Knowe, with its old peel tower on the left, and some of Mr W. Askew Robertson's property on the right, along a road trending northerly and north-westerly; noting that the walls which fence the fields were of a black whinstone, which Mr Boyd described as "pitchstone porphyry," much resembling that of Yetholm; but further on we came to a region of flaggy sandstone walls, alternating with green hedgerows; the sandstone seen in the walls and, in situ, in a roadside ravine being of salmon-red brick tint. We had a view of the Eildon Hills to our left rear, and to our right front, beyond Wedderlie, the Twinlaw Cairns on the skyline some twelve miles away, and the smooth green dome of Boon Hill to our left front, with Crosby Farm and its woods near at hand.

The weather was dry and seasonable, with a sharp bracing air, and the drive was greatly enjoyed, the clear atmosphere giving us a wide prospect of Lauderdale, its corn-fields, pastoral uplands, and woods backed by heath-clad hills.

THORNYDYKES.

Breaking the journey at Thornydykes, Mr Walter Lockie, who possesses a rich store of local information, described the house, and briefly narrated what is known of its history. The barony of Thornydykes was in the possession of the French family in the 16th and early part of the 17th centuries. This surname French appears in earlier records under the various forms of Francus, Franciscus, Francigena, Franceis, and Franke; "and it is well authenticated that the surnames of Brus and Franceis were both identified with that part of the Cotentin of Normandy called the district of Valognes, in which was located Château d' Adam, the Castle of Brix."

The following notes from "The Frenches of Scotland" [by A. D. Weld French, F.S.A. (Scot.); privately printed, 1893] give some particulars of the Frenches of the Scottish Border.

On August 28th 1296, in the Parliament of Nobles and Prelates of both realms, held at Berwick-on-Tweed, certain nobles, prelates, knights, and others renounced the league with France, and did homage. Among these the following bore the *French* surname:—

John Fraunceys of Long Newton, county of Roxburgh.
 John Fraunceys of Benestun, county of Edinburgh.
 William le Fraunceys, county of Edinburgh.
 Symon Fraunceys, county of Roxburgh.
 William Franceys, county of Fife.
 Aleyn Fraunceys, county of Roxburgh.

The line of Lairds of Thornydykes, bearing the surname French, is as follows, the dates being either those of succession, or of some recorded event in the laird's lifetime.

Lairds of Thornydykes.

- | | |
|-------------------------|---|
| 1. Robert French, 1370. | 6. Adam, 1494. |
| 2. Adam, 1390. | 7. Robert, 1526. |
| 3. Robert, 1406. | 8. Adam, 1549. |
| 4. Robert, 1478. | 9. Robert, 1583. |
| 5. Robert, 1490. | 10. Adam, b. 1599, d.
1617, in wardship. |

Soon after his demise the estates of Thornydykes reverted to the Crown, because of feudal delinquency, and so remained till 1619, when they were given by a charter of King James to Adam Frenche of

Frenchland, in Dumfriesshire, a descendant of the third laird. In 1633 he conveyed the estates to George Brown, and the Frenches ceased to be connected with Thornydykes.

"On 17th August 1403, King Henry IV. of England grants *Alexander Franche* some tolls of Berwick; and in 1407 *Alexander Franche* and his retainer, Herteramus, were both retainers of George, Earl of Dunbar, while in England. This same *Alexander Franche* is evidently referred to by King James I., in a charter of the 18th February 1426, as the grandfather of *James Franche*. In this charter the king grants to *James Franche* the land at Ayton, in the barony of Coldingham and county of Berwick, which his grandfather Alexander had forfeited, probably at the same time as the forfeiture of George, Earl of March."

Robert French, seventh Laird of Thornydykes, succeeded his father Adam. Came into possession of the estates, according to Chancery Books, in 1526; found among the barons and lairds of Berwickshire in 1530; on 20th May 1538, he is on an assize in apprising lands in Graden, in Berwickshire; and appears to have died before the 25th January 1548.

Robert French married Annie Hume, a member of the patriotic, poetical, and religious family living at Polwarth, near by in the same shire. Her aunt, Margaret Hume, was lady abbess of North Berwick. Her brother Patrick, the 5th baron of Polwarth, left specimens of poetry which seem to have been popular in the court of James VI., to which he was attached. Adam Hume, a younger brother, distinguished by his virtue and probity, was the first Protestant rector of the church of Polwarth. Margaret Home, her sister, married John Baillie of St. John's Kirk, in county Lanark. Her father was Patrick, fourth baron of Polwarth, and her mother Elizabeth, daughter of Sir Patrick Hepburn of Wauchtoun, in county Haddington.

Among the contemporaries of Adam French (8th laird) in Berwickshire, in the year 1565, were the following persons:—

John Home of Blacater.
 David Home of Wedderburn.
 John Lumisden of Blanerne.
 George Home of Ayton.
 Patrick Cockburn of Langtone.
 John Swinton of that Ilk.
 Alexander Cockburn of that Ilk.
 John Rantoune of Billie.
 Pat. Lleigh of Cumledge.
 William Chyrnside of East Nesbitt.
 John Sinclair of Longformacus.
 Thomas Ridpath of that Ilk.
 John Haitlie of Mellerstaines.
 James Ker of Mersington.

Alexander Frenche, tutour of Thornydykes, and his nephew, James Wicht of Gordon Mylne, were, in 1612, tried before the High Court of Justiciary at Edinburgh, for the slaughter of John Cranston, brother of Patrick Cranston, Baron of Corsbie and Boon. Both were convicted, and afterwards beheaded on the Castle Hill of Edinburgh. The barony of Thornydykes was confiscated to the Crown, but it seems shortly after to have been given in two parts to the Brown family of Coalston, who were united by ties of blood to the house of Lord Tweeddale of Yester. In the 15th century Jean Hay, daughter of John, third Lord Yester, married George Brown of Coalston. The dowry of this lady was the famous Coalston pear, which tradition asserts was enchanted by Hugh Gifford of romantic celebrity, who flourished about the middle of the 13th century. Jean Hay's dowry was declared by her father to be invaluable, and the latter assured his son-in-law that while the pear was preserved in the family it would certainly continue to flourish. This palladium is still carefully treasured, but there is a mark on one side made by the eager teeth of a lady who before the birth of a child longed for the forbidden fruit, and was permitted to take one bite by her too indulgent husband, the consequence of which was that some of the best farms on the Coalston estate speedily came to the market. Thornydykes was afterwards in the possession of the Hays of Alderston and Huntingdon in East Lothian, and Mordington and Thornydykes in Berwickshire, and was sold by them to John Spottiswoode of that ilk in 1787. Thornydykes House was long said to have been haunted by a Green Lady, who figures in the local rhyme—

The Brownie o' Bruntyburn,
An' Rundie o' Raecleugh,
An' Fairy o' the Flass,
The Green Leddy o' Thornydykes,
An' the Deil o' the Manse.

Another haunt at midnight of the Green Lady was Wellington Bridge, across the stank flowing west from Spottiswoode Lake.

At the back of the house, on a stone slab, is an incised but not easily legible inscription, under the arms which show three boars' heads over a chevron: "*Nulli proprius cedit mihi id (or is) olim unum sed aliis,*" so far as can be deciphered.

SPOTTISWOODE.

The policies of Spottiswoode were entered by the Eagle Lodge, with its "Steek the Yett" announcement to all who pass in or out. Just before reaching the mansion house the visitors alighted from the brakes to view Spottiswoode Lake, a sheet of water naturally small, considerably enlarged by Lady John, and artificially adorned with picturesque islands, on one of which there is a chalet beneath a bower of trees, to which her ladyship used to row on summer afternoons, to muse in this retreat, and drink her tea. [Plate XV.—from a photograph by Miss M. Milne Home.] The lake was some years ago stocked with trout and perch from the Howieson Hatchery. These have thriven well; they are not of good quality; for the moss in the lake, which is rather stagnant, has produced a bad effect upon them, culinarily, though they grow to a large size. There is a heronry of nine or ten nests in a fir-wood in the neighbourhood of the lake.

Then we went under an iron trellis archway into the Park; rolling grass land with well grown trees pleasingly spaced and diversely grouped, with weeping birch, lime, beech, sycamore, and oak; under a second iron trellis arch into the garden, where deodars, ashes, and various trees surround the house of red sandstone. [Plate XVI.—from a photograph by Miss M. Milne Home.]

On arrival at Spottiswoode House we were cordially received and welcomed by Mr and Mrs W. H. Verdin, the tenants. Here the main party, who had travelled from Gordon, was joined by other members and guests who had come by road. Amongst those who received us were, besides Mr and Mrs Verdin, Mr Norman Verdin, Miss Verdin, Miss Sybil Cook, and Sir Joseph Verdin of Garnston Castle, Weobley, Hereford.

The interest of the meeting may be said to have centred in Spottiswoode House and grounds. Guided by Mr Verdin,



Spottiswoode Lake.





Spottiswoode House.



Mr Lockie, and the gardener, Mr Chapman, we traversed a "pergola" leading to the well-kept gardens, where are Portugal laurels, which fruit here, and an elaborate sun-dial in the centre of eight diverging gravel walks, with flower beds between, and cypress sentinels guarding the end of each walk. Lower down the sloping ground is a broad grass terrace, whereon Lady Anne's ghost is reputed to roam. Here, in Mr Lockie's words, Lady John used to say that if any one wanted to see a ghost they had but to go out at the midnight hours, when they would observe "Leddy Anne" flit three times backwards and forwards along the grassy walk. To the south of the house we passed through an arch made in a remarkable holly hedge, which stands twenty to twenty-five feet high, planted more than sixty years ago; and then we saw a magnificent three-branched silver fir, perhaps two hundred years old, which in a recent storm had lost one huge branch, nearly half of the tree. At the west of the house, ranged on either side of a shaded pathway, is the Dogs' Cemetery, where some thirty tombstones record the names of deceased favourites.

Occupying a commanding site, the mansion house has an ancient and modern portion, the former being now used as kitchen, hall, and servants' rooms, communicating with the mansion proper, which was erected in 1830 by the late Mr John Spottiswoode (father of Lady John) after designs by Mr David Bryce, Edinburgh. The architecture is Elizabethan in style, a long corridor running from east to west, with dining room and drawing rooms adjoining. The house is built of a beautiful pale pink stone, from a now disused quarry at Bassendean. Amongst the portraits seen within were those of various members of the family, including Archbishop Spottiswoode of Glasgow; and also of Mary Queen of Scots and Prince Charles; and amongst other notable things a cleft helmet worn by a Spottiswoode at Flodden, a pair of flintlock pistols which belonged to Prince Charles, and a chair and footstool which Sir Colin Campbell brought out of Sebastopol the day after its fall. In the drawing room Colonel Milne Home had undertaken, at the suggestion of the President, to arrange for the singing of "Annie Laurie," with which song the name of Lady John Scott will remain ever associated. It is well known that Lady John re-wrote

the song, and wedded it to the beautiful tune of her own composing, to which it is now always sung. The Colonel happened to have as his guest at Caldra Dr Wood, organist of Exeter Cathedral, and the Doctor, hearing what was wanted, volunteered to harmonise the song for the occasion, which was done. [Plate XVII.] All joined in the singing, which was led by a quartette consisting of Colonel and the Misses Milne Home and Dr Wood, and which will abide with those who heard it, as a memorable incident of this day. On the motion of Sir George Douglas, a cordial vote of thanks was accorded to Mr and Mrs Verdin for their kindness.

Our fellow member, Mr George Fortune, Kilmeny, Duns, gives the following notes upon the house.

NOTES REGARDING SPOTTISWOODE.

The old mansion house of Spottiswoode is now used as the kitchens, hall, and servants' rooms. It was slightly altered and made to communicate with the present mansion house, which was built sometime about 1830 (see date on house) by the late John Spottiswoode, the father of Lady John Scott, the last of the race. The buildings were designed by the late David Bryce, architect, of Edinburgh, and they are in the Elizabethan style of architecture, with a long corridor from east to west, with dining room and drawing rooms off this hall or corridor. There used to be a painting in this hall of the celebrated Spottiswoode, painted by Alexander Naesmith, the well-known Scotch artist; there were also family portraits of Strahan, the famous publisher, and friend of Benjamin Franklin; also of Archbishop Spottiswoode; Lord John Scott; and the late John Spottiswoode. There were portraits too of the Black Land Steward, of whom it is said he ruled Mr Spottiswoode and Mr Spottiswoode ruled the County Gentlemen. The house is beautifully situated, with the old formal grass walks, and garden with statues, and an old and interesting dial. The stone the house is built of is from the now disused quarry at Bassendean.

Near the house stands the Eagle Hall, formerly built for the yeomanry cavalry called the Eagle Troop. In this hall used to be stored the late Lady John Scott's collection of

"Annie Laurie".

PLATE XVII.

The image shows a handwritten musical score for the song "Annie Laurie". It is organized into three systems, each consisting of three staves. The notation is in a simplified, handwritten style, likely for a specific type of instrument or as a shorthand notation. The first system begins with a treble clef on the leftmost staff. The notation includes various note heads, stems, and rests, with some notes having flags or beams. The second system continues the notation, and the third system concludes with a double bar line and a final note. The overall style is that of a personal or working manuscript.

Harmonised by D. J. Wood. Mus. Doc.



antiquities. In the belt of plantation to the north-west of the stables there used to be a fort or broch, built of whinstone, with circular dwellings in the walls. In the gable wall of the West Lodge there is a window, from the house of Archbishop Spottiswoode, with the inscription of "MIHI VIVRE ET MORI ET CHRISI ET LUCRUM"—(For me to live is Christ and to die is gain)—with a date of 1595. Not very far from this is an upright stone, on the roadside leading to Raecleugh; this boulder was found in digging drains, and was erected by the late laird, with the assistance of his brother-in-law, Admiral Wauchope; I think it used to be called *Tam*. About a mile from this, up the Bruntyburn, is a place called the Crummels, being so named from the tradition that the soldiers of Oliver Cromwell were camped there; there used to be earth-works there, near the wood bridge. Down the burn stands the old mill of Bruntyburn, where the Brownies or Fairies of Bruntyburn cleaned the house and baked the scones for the guid wife of Pyotshaw. On the road leading to Raecleugh and Flass is Rundies ford, with a monolith erected by the late Lady John Scott, where it is said that she and Lord John Scott plighted their troth—Burns and Highland Mary fashion. Along this road on Halloween or Walpurgis night rides old Rundie without his head, a legend similar to the "Sleepy Hollow" of Washington Irving. Not far from here is Raecleugh, where Madeline Hay was abducted, whence arose the Border tale of the Hilton prophecy.

There was at one time a chapel near Spottiswoode, for which Lady John sought and dug near and far, but she could find no trace of it. On the road leading to Wedderlie is the old wood of Flass, where it is said *Osmunda regalis* grows; this, I think, must have been planted by Lady John. Thence, on to Wedderlie, I don't know a more romantic old world place, with its fine old avenue. Part of the house is old 14th century work. There is here preserved an old two-handed sword, found in a moss to the east of the house; flint arrow heads have also been found on the Cammerlaws Farm. There was an old chapel, situate to the east of the present farm house of Wedderlie, and to the south of the present steward's cottage.

G.F.

At the back of the mansion a charming old "Queen-Anne" like house, with a fine brass vane, stands hemmed in between stables and coach-house, and in the latter was shown to us a family coach of 100 years ago, bearing the motto "Patior ut Potiar."

EAGLE'S HA'.

Near the mansion house is Eagle's Ha', which took its name from the circumstance that a golden eagle was long kept there in captivity. It was partly erected, but never completed, with the object of providing a residence for two maiden ladies, grand-aunts of Lady John. The hall was for some years used as an armoury for storing the arms and accoutrements of the Eagle Troop of the Berwickshire Yeomanry, of which Lady John Scott's father was captain. The troopers assembled here on the night of the false alarm (1804) and rode to Duns—Captain Spottiswoode at their head—in order to join the remainder of the regiment, and proceed to Dunbar. The Eagle Troop used to have military exercise at Dod's Bent, on the estate of Spottiswoode. It is said that an unskilled trooper named Stewart, son of the farmer of Blythe, pricked the laird with his lance, which accident suspended the operations of that day, and invalidated the captain. The emphatic prayer of an old woman, when the yeomanry were on the march through Duns, in expectation of encountering Napoleon, shows the spirit which prevailed in the time of a threatened invasion—"The Lord grant that ye may return victorious, or return no more." Alexander Brown—"Berwickshire Sandy"—born in 1775 at Thimble Ha', a small farm on Spottiswoode estate, of which his father was farmer, immortalised the Eagle Troop in a song, which in bygone days was sung at many a merry Lauderdale gathering. The opening verse runs:—

"Besouth the hills o' Lammermoor,
The farmers, lairds, and a' that!
Hae formed a band o' Yeomen true
The Eagle Troop they ca' that!
For a' that and a' that
Wi' glittering swords and a' that;
See Spottiswoode riding at their head,
Wi' helmet, crest, and a' that!"

Spottiswoode House was left by the West Lodge, in a dormer window of which is a carved stone, brought from the Episcopal Palace in Glasgow of Archbishop Spottiswoode. Proceeding by the Raecleugh and Flass road, in a procession now of *ten* carriages, we saw the monolith erected by Lady John to mark the place where she and her husband plighted their troth. On its face are their monograms and the date 1836. This neighbourhood was in olden times a favourite haunt of fairies. The Brownies of Bruntyburn, Mr Lockie says, were understood to be persecuted Covenanters, who hid in the glens during the day, and were fed by their friends over-night, in return for which they did odd jobs during the night, such as threshing grain with the flail, grinding the meal, and cleaning up the house and baking the scones for the guid wife. On Midsummer Eve and on Halloween "the little folk all in green" used to dance and sing, and in their merry moods would ride on bean stalks and black cats. Old people of the district were wont to declare that in winter, on the meadows near Crummles (Cromwell's) Brig, they traced the prints of their pretty little feet where they had trod the measure of their airy dances amongst the snow. Superstition also averred that often during the vigils of the harvest moon the fairies were heard gleefully singing the refrain of one of their favourite melodies:—

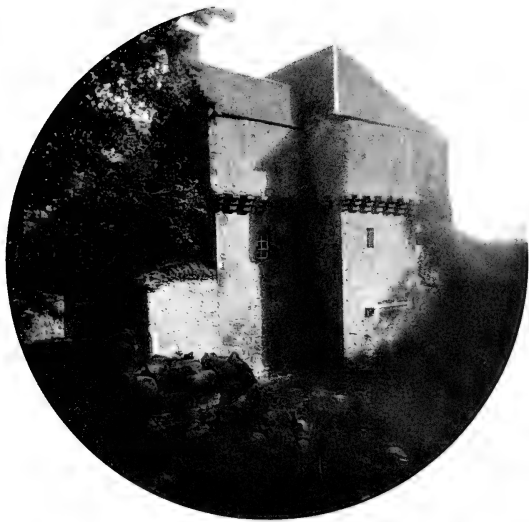
In the park o' Blythe we mowed our corn,
We threshed it up at Bruntyburn;
We grand our meal at Clacharie Mill,
We carried it up to Boon Hill,
We baked it in the Fairy Glen,
An' eattit it up in the jolly Dod Rauchan.

Conspicuous on the summit of the hill above Flass were seen the Twinlaw Cairns, which are understood to mark the graves of two Edgars—twin brothers—of Wedderlie, who, not knowing their relationship, fought as champions of the Scotch and English respectively, and perished in the combat. After passing this "popping stone," as it is named in the countryside, we saw Westruther nestling among trees a mile and a half away, and we soon reached Wedderlie House.

WEDDERLIE.

Free access was given to Wedderlie by the proprietor, Mr William Baird, through the intervention of his tenant, Mr John Clay. It is a quaint old residence, still retaining the style of the age, or rather ages, in which it was built. [Plates XVIII. and XIX.—from photographs by Miss M. Milne Home.] It is well surrounded with trees, and commands a splendid view southwards, towards Roxburghshire, in the direction of Peniel-heugh. It is a building formed out of an old peel tower of the 14th century, united to a newer and more capacious mansion of the date 1680. It looks as if a branch of the Edgars to whom it belonged had, after a period of straitened means, become enriched by commerce through one of its representatives who supplied better accommodation to his family, accustomed to such comforts as Edinburgh then afforded. To judge from the number of bedrooms, there had evidently been a large establishment. In the entrance hall was seen a gigantic two-handed sword,* $5\frac{1}{2}$ feet long, found two feet under moss when casting drains on the farm of Cammerlaws. The Edgars of Wedderlie are said to have descended from the Earls of Dunbar and March. In 1258 Sir Robert de Polwarth was the owner of Wedderlie; and his grant of three hundred acres of the territory of Wedderlie to the monks of Kelso is witnessed by Sir Patrick Edgar. In the next generation Sir Richard Edgar, who is the assumed son of Sir Patrick, appears as the first Edgar of Wedderlie. It continued in the family until it was sold in 1733, by John Edgar, the then laird, to Lord Blantyre. In 1684 John Edgar of Wedderlie sat in Parliament for Berwickshire, Edward Edgar for Edinburgh in 1640, and Alexander Edgar for Haddington, 1696-1707. A story is told of the departure of the Edgars from their ancient inheritance. The family were in straitened circumstances and obliged to sell their estates; and in the words of the narrator, "the auld laird and leddy drove out in their carriage and four horses at mid-day: but the young laird was broken-hearted at the thoet o' leaving the auld place, and he waited till the darkening; for he said the sun should na shine when he left his hame," and "it was a dark nicht when the last Edgar

* See Proceedings, Vol. XL, p. 169.



Wedderlie from N.W.





Wedderlie from S.W.



rode out of Wedderlie." Major Archer has shown with much ingenuity that Sir Walter Scott had most probably the Edgar of Wedderlie in his mind when he wrote the "Bride of Lammermoor." This ancient mansion was visited by the Club on July 26th 1885. [See Proceedings, Vol. XL., p. 69, 70; and 164 to 168.]

From Wedderlie we drove to see the Mausoleum Church, of date 1680.

WESTRUTHER.

The Club was received at Westruther by the Rev. J. Muirhead, minister of the parish, on the site of the old, now disused, parish church. Since it ceased to be a place of worship it has been used as the burial-place of the Spottiswoode family, several members of which are here entombed. A granite slab covering the grave of Lady John Scott bears the following inscription:—

Here lie the mortal remains
of
Alecia Anne, eldest daughter
of
John Spottiswoode of Spottiswoode,
who married
Lord John Scott,
March 16th 1836.
He died January 3rd 1860.
Lady John Scott
died at Spottiswoode
on the 12th day of March 1900,
in the 90th year of her age.

Here are also monumental tombs of—

John Spottiswoode
of Spottiswoode
He died at Spottiswoode
5th July 1866
in the 87th year of his age

And of—

Helen
wife of John Spottiswoode
daughter of Andrew Wauchope
of Niddrie
She died in the 87th year of her age

The “old” church was stated to have been transplanted, bit by bit, from an earlier site to its present position.

Mr A. Thomson here read a paper outside the church door, in the afternoon sunshine, the Club members grouped around him in the long grass among the tombstones. Both roof and walls of this ruinous church are covered with old ivy, whose gnarled arms are bunched in masses round the cornices. [Plate XX.—from a photograph by Miss M. Milne Home.]

WESTRUTHER :—A DESCRIPTIVE NOTE.

This delightful rural parish, which is situated on the western slopes of Lammermoor, lies nearly “four-square,” the length and breadth thereof are equal—say five miles. In 1755 it contained 591 inhabitants; and in 1791 there were 730 souls. Throughout the nineteenth century there was probably little variation, and about the middle of it one quaintly enumerates “three bachelors and four fatuous persons.” Westruther and Houndslow (30 miles from Edinburgh) are villages less populous than one hundred years ago, when the latter had 70 inhabitants. The soil in the northern half of the parish, which rises towards Twinlaw Cairns (1466 feet), is a whitish cold clay; while that of the southern, drained by the upper reaches of the Blackadder and Eden, is composed of a reddish earth on a freestone bottom. As the name Westruther implies, the climate is moist and the ground in places marshy. The earlier designation—Wolfstruther—points to a time when hunting prevailed with lovers of the chase. Raecleugh, Hindsidehill, Hound-(Hunt-)slow, Harelaw, tell of a life wild and free. Flass, even yet clad with wind-beat hazel and birk, Broomiebank, Thornydykes, Houlet’s Ha’, gave welcome



WESTRUTHER CHURCH
(Where Lady John Scott is buried).



harbourage to beast and bird. In these days, however, through drainage and agricultural skill, there are several farms where excellent crops of all kinds are raised. A sound and hardy strain of sheep gives token of pastoral interest and care. In 1765 turnips and clover were introduced. At Wedderlie the Clover Park is still pointed out.

It may interest the curious to know that from 1802 an old advertisement has been handed down, telling, with all the charm of a legend, of a remarkable cow, bred and fed at Spottiswoode. It weighed 320 stones. Paintings of it standing beside an ordinarily-sized cow may be seen. The contrast is, indeed, striking. When one remembers that it dates from the "great dearth" there may exist pardonable incredulity. Thus runs the advertisement: "To be sold at Thirlestane Castle the largest and fattest cow ever seen in Scotland, and at the same time uncommonly handsome." It was bought by Francis Dickson, flesher in Duns, for the immense sum of 200 guin. It was re-sold for 400 guin., and ultimately received a place among the marvels of the travelling show. In 1791 there were 160 horses, 700 black cattle, and 5000 sheep in the parish.

Following in the train of improved cultivation of the soil, there came marked progress in the comfort and mode of living among the people. Tea was introduced in 1800, but nearly fifty years later there were only three "tea-kettles" in the parish, namely at Spottiswoode, Wedderlie, and the Manse. Then, too, a credible writer thus describes the accommodation: "The houses of the hinds and labourers consist generally of but one apartment, which is kept in good order, and would be in most respects comfortable, were it not for want of chimneys. The fire is lighted on the hearth, and there being no outlet for the smoke but a rude crevice made in the unceiled roof, the houses are almost always filled with a dense cloud, which hovers at a height of five or six feet above the floor. This smoke, proceeding from the peat, communicates a smell to the clothes which is strong and offensive to such as are not accustomed to it."

Education, too, seems advanced. "Such is the known salubrity of the climate that for a long time a boarding-school of considerable celebrity was kept in the parish, which was

attended by young men belonging to the families of the first respectability in the country." It is worthy of note that John Home (1722-1808) received part of his early education at Westruther. Who shall say that he had no vision of his *Tragedy of Douglas*, as by "Roongie Ford" he hailed ancestral spirits? The healthful climate may have been rendered even more invigorating to those whose way led by a chalybeate spring on Harelaw Moor, which, "perpetually boiling," removed scurvy.

The ecclesiastical history of Westruther as a separate parish dates from 1649. Then was built the first church—"stonework, timber, thack, door, and glass, all perfect." It is situated on the north side of Duns and Lauder Road. A dishevelled mantle of ivy partly conceals and partly preserves the sacred ruin. At the Reformation, Westruther had been disjoined from the parish of Home, and attached to Gordon. In 1647 a minister was appointed to Bassendean, then designated a village. Its chapel, too, was used for public worship. But the good folks of Westruther refused to walk "beyond an almost impassable moor." Hence the church and parish as they now are. In 1752 reconstruction reduced it considerably in size. "Ornaments" were probably removed, and the original covering of heath superseded. It was in this kirk that, on 11th February 1679, James Hume of Flass, a brother of the laird of Bassendean, was married to Janet Lyle (of Falside.) The west gallery was used as a school before the present school-house was erected. In the quaint old churchyard a few interesting stones may be seen, and, by taking pains, deciphered. Within the building itself, in a grave lined with moss and snowdrops, lies Lady John—till "the former things are passed away."

The present Parish Church, on the south side of Duns road, was built early in the nineteenth century. It is a large oblong structure, with a gallery over the vestibule, which is the Spottiswoode family pew. Here, for many years, the late venerated Lady John Scott worshipped. She deprecated all innovations. When hymns were introduced into the service she is said to have remarked to a friend, "the *things* called hymns are now sung in our Auld Kirk. When the minister gives one out, I just open my Bible and sing with all my might, 'O God

of Bethel!" The manse, at some distance from the church, was built in 1659. It has been rebuilt, probably on the same site. Quite recently it has been improved and modernised.

Within a mile of the village of Gordon, and on the very southern edge of the parish of Westruther, stands what was formerly thought to be a pre-Reformation Chapel. It originally belonged to the nunnery of Coldstream, and was dedicated to the Holy Virgin. The ruin—known now as Bassendean Church—measures $54\frac{1}{2}$ feet by 20 feet, and walls to the height of 12 feet, in part, remain. Ecclesiastical architecture and symbolism have survived the *maws* of modern masonry. The building is now generally spoken of as a "mean post-Reformation structure." It would seem that the burial-ground surrounding it was used for interment as late as 1763.

About one hundred years ago the ruins of Whitechapel were cleared away to effect improvement at Spottiswoode House. It was built by John de Spottiswoode, during the reign of David II. (1329-70). An old baptismal font has been preserved.

Nothing now remains of the chapel of Wedderlie. Until seventy years ago a vault stood to mark its site. In the reign of William the Lion (1165-1214), Gilbert, son of Adam of Home, gave to the monks of Kelso the chapel of Wedderlie, with "10 ac. of land, with pasture for sheep and cattle."

In Convenanting times the minister of Westruther, John Veitch, was conspicuous. There was, in 1863, in the possession of the Rev. Walter Wood, M.A., a former minister in Westruther, a Latin Bible, on the blank leaf of which there was the following interesting inscription:—"Mr Jon. Vetch, minister at Westruther, sonne of Mr Jon. Vetch, minister at Robertson, was borne at Lanark, March 2, being thursday, 1620. And was laureat 1639 and admitted minister 1648 May 8, and married to Agnes Hume, daughter to Alexr. Hume, of Bassindean, Septr. 7, 1652." In the beautiful little Free Church at Westruther may be seen a plain dark slab, with these words:—"In memory of John Veitch, for fifty-four years minister of this parish. He was ordained in 1649. He was twice forced to leave his manse because he would not receive as ordinance the commandments of men, and died on his return from attending the Commission of the

General Assembly in December 1703, at Dalkeith, where also he is buried. The people of Westruther again departing from their church, because they cannot own other than Christ's authority within Christ's Kingdom, and remembering the example of one who being dead yet speaketh, erected this stone in the year of Grace, 1843."

Spottiswoode House is prettily situated on that rising ground which slopes towards "the wild and stormy Lammermoors." The stone, which has been quarried in the neighbourhood, is of a pinkish hue. The terrace, from which is had an extensive view, is about 300 feet long. Lines and clumps of magnificent forest-trees lead through the "Steek the yett" all the way to the Lauder and Kelso Road. For many generations the family name of Spottiswoode has been sustained in honour. In 1558 John Spottiswoode was superintendent of Lothian. Last of a line great in nobleness was Lady John Scott Spottiswoode, whose poetry, charity, and reverence gave token of a gentle-woman—ever tender and true. She sang of nature and of love, albeit there was sadness in her song laden with the lingering memories of long-lost joys. She did not "remove the ancient land-mark." Her affection for old times, old ways, old folks, was intense. Her heart clung to the simplicity of rural life. Alas! the pathos of it—

"Parting was never sae pain."

Wedderlie House lies about a mile north-east of Westruther village. It has a weird place in Border story from its being the residence of Edgar, whose sons fell in battle amid the pathos and romance of filial tenderness. The *ballad* of the Twinlaw Cairns gives the incident historic setting, while from afar are seen the "Brother Stones" taken, it is said, from hand to hand in line from Watch Water at the base of the hill. The Cairns are about 10 feet high, and stand 70 yards apart. Wedderlie has long been the property of the family of Blantyre, and along with Cammer (Gimmer) Laws is now possessed by William Baird, Esq. On the heights of Wedderlie Farm is the shadowy semblance of a cross—"Gibb's Cross"—with its sanctified sibilant story of sin, sorrow, sacrifice, and *the one Salvation*.

Eve-(Ive-)law Tower lies further east, biding the frown of the surly Dirringtons. It is a fine example of the Border keep, partially restored, or at least preserved, by one who has respect to the record of the past.

Bassendean House is in close proximity to the chapel of the same name. It lies low by the "fields of Eden." Sir James Home of Coldenknowes received a charter of lands at Bassendean from James VI. in 1573.

Of antiquarian interest are the antlers of deer found at Whiteburn, and the bronze urn and Roman camp-kettle in Jordon-law Moss, where 10 feet down the large oaks of pre-historic times give a wholly hard-wood bed. In 1760 was traced a rampart and fosse which ran from Hutton on the Whitadder to Boondreigh, *bon-trych*, the end of the trench. At intervals there were erected forts, which thus formed an impregnable line of defence. It is named variously Herits or Herrits or Herriots Dyke, and was probably the work of the Gadeni or Cumbrian Britons. At the above named date it could be traced for fourteen miles eastward from Spottiswoode, along the north of the village of Westruther, to a point about a mile from Greenlaw. It extended westward as far as Boon. It is not improbable that it joined the more widely-known yet mysterious Catrail, whose character it so much resembles. It probably crossed the Duns and Lauder Road at Dods Mill, where kiln-cowl and water-wheel preserve the simpler ways of eld. Westruther Mains, too, locally known as the "mill," is near the church and village—the name alone surviving the memory of the last miln-knave.

At the present day, when railway lines direct trade and traffic, our quiet parish lies beyond the beaten track. However, in most things of vital importance it keeps pace, for even here (may it be spoken ever so softly!)—

"The old order changeth, yielding place to new."

[For another brief account of this parish and church members are referred to the Club's Proceedings, Vol. XIII., p. 166.]

Accepting the invitation of Mr Muirhead, we then visited the present Parish Church, on the opposite side of the road, which was erected in 1840. Here were shown four old Communion cups, bearing dates 1718, 1778, and 1825. The cups are kept in a box made out of bog-oak, found in Westruther glebe. The box was made by a former incumbent—Rev. Mr Birrell—and presented by him to the church in 1830. Mr Muirhead read from the kirk session records, which extend back to 1660, particulars of a trial of Thomas Fairbairn, Flass, in 1725, for sorcery. He was accused of burning a horse alive in order to abate sickness amongst horses and to allay witchcraft. It appeared that the kirk session had been anxiously exercised over the matter at several meetings, with the result that the charge was found not proved. The Presbytery of the bounds, however, took up the matter, and caused a very explicit announcement to be read in the church, beseeching the people to abstain from all such practices, and intimating that any conviction would be severely dealt with according to the laws of the church.

On returning to Gordon, which we reached about four o'clock, we dined at the Gordon Arms Hotel, to the number of twenty-six in all. Sir George Douglas presided, and Colonel Milne Home was croupier. After dinner the usual toasts were proposed and honoured. Mr Muirhead exhibited specimens of Westruther Communion tokens, bearing dates 1758 and 1840.

Opening of Whiteburn Inn.

[An account of the opening of Whiteburn Inn by Mr John Spottiswoode, at Westruther, in the year 1800, reprinted from the *Kelso Mail* of that date, and communicated by Colonel David Milne Home, may here be interesting to those who took part in this day's meeting.]

Monday, October 27th 1800.—On Tuesday last the new inn at Whiteburn, in the parish of Westruther, was opened by John Spottiswoode, Esq. the proprietor, who gave there an elegant dinner to his trustees on the new road from Whiteburn to Kelso, and also to a very numerous company of gentlemen

in the neighbourhood. The entertainment was conducted with great good humour and high social glee by Mr Spottiswoode, who acted on the occasion as landlord of the inn. After dinner the following toasts were drunk:—

“*The King.*”

“Our Navy and Army, and success to His Majesty’s arms by sea and land.”

“May our Union with Ireland increase the prosperity and happiness of all and each of the three Kingdoms.”

“The Land of Cakes, and may it always enjoy the blessing of peace and plenty.”

“Prosperity and success to the inn at Whiteburn, and the road from Whiteburn to Kelso, with long life and good health to John Aitchison, Alex. Aitchison, Michael Ireland, John Blackadder, Donald Cumming, and all the other masters and fellow crafts employed in these useful and ornamental works.”

“Success to the County of Berwick, and may it prosper in every branch of useful agriculture and manufacture.”

“To the Earl of Home, Lord Lieutenant of the County of Berwick, good health to him and all his family, and to the standing and prosperity of the House of Home.”

“To George Baillie, Esq., the representative of the County of Berwick—we much regret the cause of his absence, and drink to the long standing of the family of Jerviswoode and Mellerstain—may his conduct in Parliament merit and meet with public applause, equal to the esteem and regard which his private virtues have secured to him from his friends and neighbours.”

“To the success and improvement of the parish of West-ruther, may her heather combs be speedily turned into wheat sheaves. Good health to Mr Shiels, the minister of the parish, with prosperity to him and all his family, and may his flock practice his precepts, and improve by his example.”

“May His Majesty’s subjects in every region of the world pay a dutiful submission to the law of God, the law of the land, and respect the magistrates appointed to rule over them.”

"A hearty welcome to Peter Porcupine, on this side of the Atlantic, and may his endeavours to do good be crowned with success."

While the prospect of the benefit to be derived from the advancing improvements of the county heightened the innocent joy and convivial mirth of the company, the distresses of the unfortunate were not forgotten. A liberal contribution was made for a labourer and his family, who some days ago, working on the new road, had by an unlucky accident got both his legs broken, and was otherwise much bruised.

After spending the afternoon and evening with much harmony and festive merriment, the company separated at a late hour.

BERWICK.

THE ANNUAL MEETING for 1901 was held in the Museum, Berwick-on-Tweed, on Thursday, 17th October.

The following members were present:—Sir G. B. Douglas, Bart., Springwood Park, Kelso (President); Mr G. G. Butler, Ewart Park, Wooler (Editing Secretary); Colonel David Milne Home, Caldra, Duns (Organizing Secretary); Mr G. Bolam, F.Z.S., Berwick-on-Tweed (Hon. Treasurer); Captain Norman, R.N., Cheviot House, Berwick; Mr J. L. Campbell Swinton, Kimmerghame, Duns; Mr W. T. Hindmarsh, Alnwick; Rev. Evan Rutter, Spittal; Mr W. Maddan, Berwick; Mr J. L. Newbiggin, Alnwick; Mr G. P. Hughes, Middleton; Mr A. L. Miller, Berwick; Mr J. F. Macpherson, Edinburgh; Mr J. A. Somervail, Broomdykes; Rev. James Fairbrother, Warkworth; Mr Arthur Giles, Edinburgh; Mr A. H. Leather-Culley, Bamburgh; Mr D. McB. Watson, Hawick; Rev. Beverley S. Wilson, Brantingham Vicarage, Brough, E. Yorkshire; Mr J. B. Short, Berwick-on-Tweed; Lady Elliott, Mains House, and Madam Von Fischer (Bavaria), Miss Rodgers, Miss Kelsall.

MINUTES OF LAST ANNUAL MEETING.

The Minutes of last Annual Meeting, held on 20th December 1900, were read and approved.

REPORTS OF FIELD MEETINGS.

The Reports of Field Meetings of the year were produced by the Editing Secretary.

BRITISH ASSOCIATION.

A verbal Report was made by Mr G. P. Hughes of his attendance, as the Club's representative, at the British Association.

TREASURER'S STATEMENT.

The Treasurer's Statement, showing the Club's financial position, with a balance in hand of £118 0s. 1d., was submitted and approved, and on the motion of the Treasurer the Subscription for the ensuing year was fixed at 10s.

RESIGNING MEMBER.

A letter was read from Mr J. B. Boyd, of Cherrytrees, intimating his desire to resign membership, owing to his inability to attend Field Meetings. The members present expressed great regret at losing so old and valued a member, and the Organizing Secretary was requested to write and inform him of this, and express a hope that he would reconsider his resolution.

NEW MEMBERS.

The Organizing Secretary produced a list of names proposed for membership, received throughout the year, as follows:—

George Grahame, Berwick-on-Tweed.
Sir James Ranker Ferguson, Bart., Spitalhaugh, Peebles.
Captain Fullarton James, Stobhill, Morpeth.
Alexander Mirison Small, W.S., Collingwood, Melrose.
Henry Beaumont Fox, Galewood, Wooler, Northumberland.
Francis Stewart Hay, Duns Castle.
William Currie, Millbank, Grange Loan, Edinburgh.
George G. Napier, M.A., Orchard, West Kilbride.
Rev. H. Lamont, Coldingham.
George Denholm, Press, Reston, Berwickshire.
Lady Elliott, Mains House, Chirnside (Honorary Member).
They were duly elected.

He announced a telegram from Mr J. Ferguson, Duns, received at the meeting, expressing regret at his absence, and his wish to propose Rev. H. M. Lamont, minister of Coldingham, as a member. Colonel Milne Home having intimated his readiness to second the nomination, Mr Lamont was accordingly elected.

PRESIDENT'S ADDRESS.

Sir George B. Douglas delivered his Address in retiring from the Presidency of the Club. It dwelt principally with Poets and Painters of the Border Country, and at its close he nominated as his successor Sir Archibald Buchan Hepburn, Bart.

VOTE OF THANKS FOR ADDRESS.

On the motion of Captain Norman, R.N., seconded by Mr G. P. Hughes, a vote of thanks was accorded to the retiring President for his Address.

STORAGE OF LITERARY MATTER.

On the Report being called for from the Committee appointed last year (1) to enquire into the Storage of Literary Matter belonging to the Club, (2) Cataloguing the same, and (3) arranging Indices of the Transactions to the end of 1900,

(1) Colonel Milne Home reported that communications had passed with the Committee of the Berwick Museum, but that, though Plans had been procured—being furnished *ex gratia* by Mr Stevenson, architect, Berwick—for an enlargement and improvement of the Museum's premises, no further progress, for financial reasons, had been so far possible.

(2) Mr G. Bolam produced Lists of all the Literary Volumes, etc., belonging to the Club.

(3) Mr McB. Watson explained the method he suggested for arranging the Indices, and undertook to carry it out with the aid of the officers of the Club, and any others proffering assistance. It was, therefore, remitted to them to continue as a Committee for the conclusion of the work.

PLACES OF MEETING FOR 1902.

Places and dates for Field Meetings in 1902 were discussed. Flodden, Rothbury (for Craggside), Lauder, Cockburnspath, Press Castle, Newcastleton (for Hermitage Castle), Eglingham, and Lyne (Peebleshire), being specially spoken of, and the ultimate decision was left with the President and the Organizing Secretary.

NEW LADY MEMBER.

On the motion of Sir G. B. Douglas, seconded by Colonel Milne Home, Lady Elliott, Mains House, was unanimously elected.

VOTE OF THANKS TO THE PRESIDENT.

On the motion of Mr Campbell Swinton, of Kimmerghame, a hearty vote of thanks was passed to the President for his conduct in the chair, and throughout the whole of his year of office.

Before the business meeting Captain Norman met those members of the Club who were present at the railway bridge, at 11-30 in the morning, and conducted them round the principal part of the ancient walls of Berwick, starting from the site of the ancient castle, the modern railway station, and travelling northward and eastward at first. Captain Norman spoke of the date of the castle as being old but uncertain, though undoubtedly it was a fortified inhabited stronghold in Edward the First's time. He pointed out the deep fosse of the ancient city wall, and, upon the remains of the wall now dismantled and reduced to a grassy mound, the Bell Tower, which he named as the oldest tower in the county: he gave an interesting account of his endeavours to trace the present whereabouts of the old Bell, which, according to Scott (*History of Berwick*, p. 201) was sold to Burnt Island in 1619 for £36 10s. He then explained the difference between the present Elizabethan and the old Edwardian lines of circumvallation, and called attention to the "Spades Mire," an outlier of the latter, and to the "Covert Way" of the former. Next was seen the Soulis' Tower, also called the "Murderer," because of the old cannon formerly lodged there which bore this descriptive name. Then, turning south, the "salient" of Queen Elizabeth's time was observed, and the well-jointed masonry of the rampart admired; and the inspection concluded by a visit to the Brass Mount, and to the Armoury beneath the "flanker," reached by narrow and dark subterranean passages.

Mrs Barwell Carter again, as on many former occasions, threw open her house and its collections to be visited by members of the Club, of which her father, Dr George Johnston, was the founder.

Notes on Coldingham.

By MRS WOOD, Woodburn, Galashiels.

So much has already been written about Coldingham that one is inclined to think that there is little left to say, but the whole place abounds with interest, and the more one wanders about it, the more one feels the truth of what I have heard Canon Greenwell say—"The history of Coldingham has yet to be written." These notes, which I venture to offer for the pages of the Club's Proceedings, are in no way a contribution to its history, but a mere gathering up of the life of the place.

The village itself lies on a strip of flat land, which stretches along the sea-board from the farm of Northfield as far as Eyemouth. The visitor who comes down the long descent from Reston expects when he reaches Cairncross farmhouse, and sees the sea, that Coldingham will also come into view; but it is not for another mile and a half, and then quite suddenly, that the church comes in sight, and, as this striking object—so unlike any other church in the Border counties—occupies his attention, he forgets to look at the houses nestling so cosily in the shelter of the hill. The situation is one of much beauty; the great Head of St. Abbs' in the distance; the magnificent boundary of sea which, though fully a mile off, is seen from all parts of the village, and is a never

ceasing source of delight to the eye of the stranger, and the blue slated and red tiled roofs, set off by the mass of greenery at the back, make up a pretty picture. But it is ever to the church that the eye turns; it looks so lonely, as if seeking for something it had lost, as it stands there shorn of its nave, its transepts, its grand tower, its chapels, chapter house and refectory, its outbuildings, too, all indicating the life of a community which, while serving God day and night in this magnificent temple, did not neglect to be diligent in business. Thus it mutely appeals to our reverence for its great past, and we feel as if ashamed to gaze in thoughtless curiosity on this lingering memorial of the once glorious Priory.

Of the lovely choir there are only the north and east walls left to give a slight idea of what the building was when complete. The architectural style is that of the transition from Romanesque to Early English, showing it to have been erected towards the end of the 12th century; and "the beautiful triforium is unique, from the way it is connected with the windows and introduced into what may be called the clerestory."

When the present church—the original choir—was put into something like order in 1855, the lowering of the floor revealed the foundations of a still older church with an apsidal termination of the chancel, the low wall of about two feet in height being plastered on both sides. The space between this wall and that of the wall of the present church was filled with dead bodies, one of which was wrapped in a woollen covering folded over the feet, the material untwilled and like a blanket. The whole of this ground, indeed, was full of human bones—pieces of shoes, shoe latches, and shreds of clothing being mixed up with them. In one part was the body of a man of large size, the ribs from the back bone to the front measuring 18 inches, or 36 inches all round.

In the centre of the south transept were found (under an accumulation of rubbish) the gravestones, inscribed with crosses and swords, now set up on the outside of the same transept wall, the inscriptions, unfortunately, fast disappearing from exposure to the weather.

The graves of the two Priors were accidentally discovered at the same period by Aleck Storey and another workman named Waldie. They were engaged in clearing away the stones and lime after the demolition of the comparatively modern bell tower at the west end of the choir, when suddenly one of the spades made an opening into what proved to be a vault, and, looking down, the men saw the bodies. A careful examination was subsequently made, and it was found that the two Priors were interred in one vault, built in with stone and lime, no earth being about them, only a little adhering to the mouth of one of them. The one had been sewed up in leather, which was quite black; he had on shoes, a hazel stick with the bark on, and a crooked handle, lay by his side; he was a tall, large man, with teeth in good preservation. The other was sewed up in linen, but both were sewed up so as to cover the whole figure, the head as well. The stitch of the leather covering was what is called the sack stitch, and the shoes had a welt round them such as "pumps" had. The two bodies were lying a little apart from each other, and in the very centre of the transepts.

In 1877 a portable altar was turned up in the churchyard, at the north side of the church. It is a smooth, sandstone, square slab, about ten inches in breadth, and an inch and a half in thickness. There are five circles on it, and five crosses. Five dots or stigmata appear to have been intended to be represented at the intersections of the circles. Mr Wood of Woodburn, Galashiels, secured the stone, and afterwards presented it to the Museum of the Society of Antiquaries, Edinburgh. A portion of another portable altar stone was found near the same place shortly after.

"The five crosses on the stone—including the central cross over the relics—are very ancient, more ancient than the symbolical explanation of the thing, probably before A.D. 506."

A portable altar stone was consecrated for saying Mass, and made of a suitable size for travelling. The privilege of possessing one was granted by licence from Rome, and it is curious and most interesting to learn, in connection with this, that "a licence for using an altar stone was granted

by Pope Eugenius in 1444 to John Olle, Prior of Coldingham, the motive for granting the licence being that the Pope moved by his—that is, John Olle's—devout petition, and as he says he is a priest of gentle birth, grants him leave to have a portable altar.”

We learn from the Coldingham Session Records that in July 1696, and for many years afterwards, the preaching tent at the Communion was set up “within the old church walls,” and even as late as the end of the 18th century the foundations of the nave, as far nearly as the gate of the churchyard, could be traced. Complaints, however, are of frequent occurrence by the heritors, of people stealing stones from the old ruins. In May 1773, for instance, “John Bogue, mason in Coldingham, John Crawford, and others, took down and demolished the aisle, commonly called ‘The Pit,’ and which was designed by the heritors as a proper place for holding a hearse; and John Swanston, tenant in law, John Tuck, fewar in Coldingham, and others, carried off the stones for their private purposes. It was ordered that they be prosecuted by the heritors, and that it be advertised that no person shall deface or carry away stones, rubbish, or any other materials from the old walls of the church and abbey.”

“The meeting the same day inspected the marches of the church area from the back of the minister’s garden dyke to where it joins the large arch on the south side of the old pit—they see that there is an encroachment on the church area by the tenant of the garden east of the church, belonging to Mr Home of Wedderburn, and ordered that Mr Home be written to that the dyke be taken down, and rebuilt on the old foundations, and failing this, or refusal, that the tenant shall be prosecuted.”

Notwithstanding the efforts of the heritors to put an end to these spoliations, they seem to have gone on for many years, some of the worst of the depredators being, in 1776, characterised by the heritors as “notorious offenders.”

There are many names of places in and around Coldingham given in the Riding of Coldingham Common of date 1561, in old family documents, and in the lists of visitations made by the Rev. Mr Dysart in the 17th century which have

perished, others whose identification it is possible only to guess at, and only a few which can be pointed out with certainty. Among the latter is "The Chariot," a grassy lane behind the north wall of the churchyard, which took its name, it is said, from having been the road by which the nuns went in covered carts or chariots to bathe in the sea. Dr Hardy once suggested that as the Coldingham people pronounce the name not "The Chariot" but "The Shire," it might have been a march or division between the abbey and the common lands, the line of the latter passing close by down to the sea-braes.

The burn after leaving Bogan is called Rickleside burn, from the Ricklaw or Rikelaw, that is the high ground which bounds the burn to the north. This hill rises steeply at the back of Burnhall, and at its summit, not so many years ago, stood a row of cottages called Ha' Bank. In Mr Dysart's time he frequently visited at Rickleside, evidently the name of the houses at the side of the Ricklaw burn. After passing below the bridge beyond Burnhall, the burn unites with the Cole burn, and then takes the name of the Skat or Stak burn from the piece of common land called "the Stak burn Common," mentioned in the Riding already referred to. The name Skat is evidently the origin of Scavie or Scape applied to it in later times, and since then still further corrupted into Scabie. Scoutscroft no doubt derives its name from the same—Skatscraft.

The other burn which flows along the south end of the village, and has in late years been christened the Court burn, is most probably the Cole or Coil or Coal burn, and it is notable that a loan leading from "Coldingham Law dubs" to this burn is still called "the Cole bog"; besides, the old mill on the burn, near Milldown, was always known as the Cole Mill, and in a document of 1647 mention is made of "the Coilmylne, and that piece of land called Coilburnbraes and Coildene." The two burns after uniting at the lower end of the Skat Common—or Scabie—flow onward past Milldown House to the sea.

Milldown is a comparatively modern name, the old name, Cole Mill, having been changed to Milldown in 1806 by Mrs Logan of Burnhall. Mrs Edgar, who died only a few years

ago, a very old residenter of Coldingham, told me that her grandmother was tenant of Cole Mill, and relinquished it before her tack was out in favour of the Logans. Mrs Logan was a London lady, and it was she who planned the present house, and, after the London fashion, made the public rooms to be reached by a flight of steps, with the kitchens and offices below.

The old Cole Mill still exists, a picturesque ruin on the burn side, half way between Milldown House and the sea.

There is a saying current in Coldingham, and often uttered when the sea is heard rushing over the rocks at Milldown,

“When Milldown brews, Coldingham rue.”

Cairncross and Whitecross are names which indicate to us the sites of crosses where pilgrims on their way to the abbey might say a prayer, or the passer-by rest and think. The Crossgait is perhaps the street where the market cross still stands.

Not far up the steep bit of road which leads from the Burnhall bridge, on the way to Northfield, one comes to a gap in the hedge, filled in with a paling. The place goes by the name of Applin Cross, and in the field close by, when the plague devastated the country, its victims at Coldingham were interred. Applin Cross is, Dr Hardy told the writer, a corruption of the very touching designation, “the Appealing Cross.”

Paradise is still applied to the piece of ground close to the old parish school. The name Paradise was given to the garden of a convent, and sometimes to the whole space included within the circuit of a convent. If this was actually a garden of the priory the site was well chosen, sheltered as it is, and sunny, and watered by the Cole burn, which runs along the foot of the gardens of the present Paradise.

St. Michael's Mount, as the monks styled it—or the Michael knowe or Michael's knowe, as it is known in common parlance nowadays—is a knoll in a field near Scoutscroft, bounded on the north by the road to Burnhall bridge, and on the east by the minister's glebe. Many British graves

have been found in this field, and, singular to state, the ground everywhere over the field is full of pebbles, the white pebbles so common on the sea-shore; and, stranger still, as the tenant, Mr Peter Thorburn, remarked—"chuckie stanes, and no a black ane among them." They are in such numbers that one may gather dozens in a few minutes, so closely are they mixed up with the soil. A few are also to be found in the glebe, but more sparsely. The tradition is that they were brought there by the ancient inhabitants to fill in their graves. The spot had been a sacred one in the eyes of the people, and, in accordance with the wise policy of the Church of Rome, it was respected as such, and dedicated by the worshippers of the new religion to St. Michael and All Angels.

In an account of expenses by Brother R. de Kellaw for the repairs and maintenance of buildings and grounds of Coldingham Priory, there is an interesting notice of this mount. The date is the 14th century (1344), and runs thus:—

In the mowing of the cemetery of the church, and of the garden of St. Michael, with the tedding and lifting of the hay and herbage of the same, 2s. 6d.

Also in mowing of the Langmeadowe, with the tedding and lifting of the same, 2s. 6d.

The Langmeadowe may have been the present glebe, near the manse; at least it is the only level ground bordering a stream which answers to the description.

Mr Dysart in his intimations of visitations frequently speaks of Suttiraw and Hallcroft, and as they are always mentioned in connection with his visits to Coldingham Law, we are led to believe that they may have been somewhere close by; besides, the lands Howcroft, Armstrong's park, Beapark, Beancroft (now called "the Cockit Hat"), etc., seem to have all been not far from one another. In 1561 the common lands of Coldingham are laid out as marching "west the hall croft, and down the Halycraft head."

"Coldingham Law doors" and "Davy Ellin's doors" are also boundaries of the marches of Coldingham Common. The latter refers to the properties in the Kilnknowe, lately possessed by the heirs of Mr Thomas Paterson, wright, the father of the late Mrs Andrew Wilson.

Cairncross seems to have been styled Cairncross Hall in the 17th century. The Fishers' brae is, in a deed of 1760, called Cadgershill, and "the yeard and houses to which it refers are holden immediately of and under Alexander, Earl of Home, in feu form fee and hostage for payment and delivery yearly of the sum of 6s. 8d. Scots money, at two times in the year, Whits. and Marts., by equal portions with two kain hens and four days work, or 5s. Scots money, for each hen and the like sum for each day's work."

Godsmount or Gosemount is the name of the ground on which is the steading of Mr Robert Cormack, near Bogangreen.

"Bonner dubs" may have taken its name from a former proprietor. There are Bonners mentioned by Mr Dysart in 1701, and headstones in the churchyard commemorate Bonners of dates 1787, 1807, 1813, and 1847.

After the sale of Burnhall, about 1798, Sir James Home repaired and fitted up a house in Coldingham for his mother, called "the Castle"; where this was situated no one seems now to know.

Coldingham Manse in Mr Dysart's time had a thatched roof, and in 1698, four years after Mr Dysart's entrance as minister of the parish, the house and offices were re-thatched by George Blair, thatcher, for the sum of £66 14s.

It was the custom in Coldingham that when a woman died in childbed the coffin was covered with a pair of sheets instead of the usual mortcloth. I have heard that a woman at the shore named Wilson was the last on whose coffin "the sheets" were laid.

In 1616 to 1621, during the period of Sir Alexander Home's sheriffship of Berwickshire, he caused several unfortunate women to be burnt for witchcraft, and so strong was the belief in the power of suspected witches that many persons in Mr Dysart's time were brought before the session for employing them to use charms to cure disease, and also for scratching or wounding them "above the breath," in the hope, by drawing blood from them, of averting their evil designs.

One of the customs of the witches was to run nine times withershins—that is, contrary to the sun—round "the grey

stane," which it is said was somewhere near the farm of Lumsdaine.

The young men of Coldingham were accustomed to play at "the bob and pennystanes" on the Sabbath day, and were sharply reprov'd for such desecration by Mr Dysart; another of their games was "playing at the bullets."

The word "wanwoth," meaning not worth anything, was used by Aleck Storey one day when speaking of the salmon as "just gat for a wanwoth." When telling—which he dearly loved to do—his adventures as a witness in the famous St. Abb's right of way case, and how he had been kept running here and there in Edinburgh after lawyers and sheriff officers, Aleck expressed his feelings in these words—"keeping me running aboot like a waiter clearer"; and again, in reference to the crab fishing, he said—"aye, it needs a jabble on the waiter to gar the poos creep." Lastly, I heard the late Miss Pae—sister of the novelist—use the word "ambersory," meaning robust, and speak of "having a 'howd' round St. Abb's"; that is, a sail or row.

In drawing to a close these desultory and somewhat confused notes on Coldingham, I take the liberty of appending the following local rhymes, written for me from memory by the late Mrs Andrew Wilson:—

"The shore for cuddies and buddies,
Northfield for clashes and lees,
Coudingham for bonnie young lasses,
Hymooth for randies and thieves."

"Hymooth it is a dirty place;
A kirk without a steeple,
Fish guts aye lie at ilka door
Amang a' class o' people."

"I stood upon Hymooth Fort,
And guess ye what I saw!
Broon's bank, Netherbyres,
Newhouses, and Cocklaw."

" We'll hunt the Pootie through the Press,
We'll hunt her through and through ;
We'll hunt the Pootie through the Press,
Her beauty we'll pursue.
She has a lad in Coudingham
Anither in the Law,
But the bonniest lad among them a'
Is the stewart o' Purris Ha'."

Explanatory Note of Meanings.

Cuddies—donkeys.

Buddies—folk ; people.

Clashes—gossip.

Pootie—niggardly, mean, stingy. (Berwickshire word.)

Press—the name of a farm near Coldingham.

Hen's Hole in Cheviot. By MISS RUSSELL.

A CLEARER description than I have seen elsewhere of Hen's Hole, the waterless, or nearly waterless, valley on the top of High Cheviot, in Northumberland, where the snow always remains till July, is given in an account of a fox-hunt in the Cheviot, by Sir George Douglas, in the *Scotsman*; and it bears out an idea I had formed of a curious jumble of history on the eastern border.

Hen's Hole is the name this conspicuous natural feature is usually known by; it seems to be sometimes called Hell's Hole, and sometimes Helen's Hole. And I believe these are all real names, and in their way equally correct. Though it seems that Helen's Hole is properly a small cave, or at least a cave with a narrow entrance, in one side of the ravine.

It had struck me as possible, from the form the name takes in well-known dedications like Ellesmere, that St. Helena, the mother of Constantine, who is a very favourite patron saint in England, and in the north-east seems to me to have been especially Edwin's, may have acquired some of the heathen honours of *Frau Hölle*, who is certainly the same person as Berchta, the great nature goddess of the Germans. The Christianity of Edwin's converts must have been of the most perfunctory kind.

The names both *mean* the Bright Lady; and circumstances which struck me in Sir Arthur Mitchell's paper on *Fire Ceremonies at Mid-winter* pointed to their meaning the same deity, worshipped by different German tribes under different names. There is, or was, a ceremony in Swabia called *burning Frau Hölle on Berchta's night*, which meant running about with torches on the evening of the 6th of January,

the Epiphany, or Twelfth Night; which I should say must have been the old festival of the goddess, held when the daylight begins perceptibly to lengthen.

The goddess Hel has in the Scandinavian mythology been degraded to the position of the daughter of Lok, the god of mischief, and that of custodian of the dead, of either sex, who had not qualified for Odin's military paradise of Valhalla, by dying a violent death; but that mythology, as we have it, at least, I should call rather literature than folk-lore; the Scandinavians had much in common with the Greeks in the way they slapped their beliefs into form, and I believe what relics we have of the old German mythology to be much more genuine. One element of confusion in the north is that the worship of Odin seems to have supervened upon, and been combined with, that of *Thor*. In any case, no such person as a great mother-goddess appears.

What first gave me the idea, I think, of certain heroes or heroines of authentic history being identified with old deities, was Kemble's theory about Dietrich of Berne, Theodoric of Verona; that the reason he pervades German legend in the way he does, is that he has been amalgamated by tradition with the old deity, or demi-god, of the same name, Dietrich. And what shows curiously that Kemble was probably right, is that the association of the name with divinity reappears among the Saxons of Northumbria. There is a personage who is called *Dectotrec frater Tiu*, in the queer lists of the Kings of the Picts; and he is supposed to be Theodoric, son of Ida, designated as the brother of Tiu or Tyr, the northern god of war! (We know now that Theodoric had probably married one of the Pictish princesses, who carried on the succession.)

And whether St. Helena has been taken for Frau Hölle or not, it is said that Bertha, the regent of Burgundy, who is a very historical personage indeed, her device of the spindle appearing on the existing seal of a document, has been very much identified with Berchta.

And it has occurred to me that the predominance of the Saint of the Bass in the East Lothian promontory may be owing to an older tradition of the northern sun-god—his

being always called by his proper name of Balder, instead of the literary Baldred, shows he is not a mediæval church tradition. It is the more noticeable that there has been at least one set of martyrs of the Bass since, whose martyrdom was not voluntary.

But the curious circumstance about the mythology of Hen's Hole I only became aware of comparatively lately. In a letter I had from Dr Hardy, not long before his death, he mentioned, with reference to something else, that "one of the old hunting Percies" had taken refuge from a snowstorm in Hen's Hole—whether he mentioned the cave or not I am not sure without looking at the letter—with his hounds, and that they are said to be all sleeping there still.

Now the cave in which Frederick Barbarossa is said in German tradition to be sleeping, is that of Berchtesgaden, which I believe is very inaccessible, and is no doubt a popular representative of the mythological hall of Berchta, from which souls come. Mr Smail, in his poem on the Cheviot legend, does not name the sleeping hunter.

The story about the cave may be as old as the Saxon occupation of Northumbria, but it is quite possible it is not older than the time of Edwin's adoption of Christianity, when the name of St. Helena was probably given to the hill. I have latterly thought that the hill had had a Saint's name, for *Hen* is a Welsh word for saint; and Andrewhinny above St. Mary's Loch is no doubt St. Andrew. The name was probably given when the Cumbrian Church conformed to Rome, in 700, under the influence of Adamnan of Iona. Pen-Christ, as the name of the great hill in Roxburghshire is distinctly pronounced, is of course Welsh too; but the best known of these names is the Dunion, or Dun-Ian, near Jedburgh; the hill of St. John, which has a duplicate near Inverness.

St. Helena, who is connected with York, does not usually appear with Welsh associations; but there might be a special reason for it in this case. The Welsh *Pol Hen* is said to be neither the Scriptural St. Paul nor St. Pol de Leon, but Paulinus.

And if Edwin was really baptized by a Welsh prince, the son of Urien and nephew of Llew Loth, there must have been some approximation between the Saxons and the Cumbrians, whether his Christianity was the price he paid for Lothian or not.

The indications that it was are, naturally enough, not to be found in Scotch history, nor in Northumbrian history either; but nevertheless the record remains. Supposing St. Helena to be a British dedication, I had been struck by the incongruity of her name occurring in three different places just outside the frontier of the Cumbrian Britons; at Lindean, on the east side of the Ettrick, below Selkirk, where the Catrail is recorded at least as running along the hill on the west side of the river; on the frontier of Lothian proper, in the angle between the Sea and the Pease Dean; and at a well at Darnick, about a mile west from Melrose, where the Tweed to the north is the boundary of Wedale, the district between the Gala and the Leader, which seems to have belonged to Cumbria.

And then I saw that they were Saxon dedications, and probably marked the advance of Edwin of Deira, whose name remains at Lessudden, spelt Lessedwyn till the eighteenth century. The exactly parallel cases are those of the Mercian Kings. Mr Kerslake of Bristol worked out the dedications to St. Werburgh—a well-known Saxon saint, an abbess of the Mercian royal family—as coinciding, in about half the known cases, with the recorded proceedings of Ethelbald of Mercia; and, what is further to the purpose, of a certain number out of the very numerous dedications to St. Helena in England, with those of Offa of Mercia.

If she had previously been Edwin's patron saint, which she naturally would be, as connected with York, it would account for Offa's adopting her. And I subsequently noticed the line of Edwin's dedications towards the north; that is to say, Gibson's Camden (and I imagine Camden himself) mentions a Helen's Chapel at Condon, on the northern Roman Wall, some way north-west of Falkirk; that is, on the northern boundary of Lothian, as that on the Pease Dean is on the southern limit. It is not, I think, denied that

Llew, son of Cynmarch, the Welsh King of Lothian, is a real personage; there is a curious relic of Welsh possession in the name of Glen Fin, a Welsh boundary-glen, that of a small ravine joining the Pease dean from the northern side, and probably originally that of the larger valley. And as Cornhill, immediately south of the Tweed, has a dedication to St. Helena, it seems as if these three churches marked Edwin's acquisition of successive provinces; his baptism at the hands of Rum or Romeo, the son of Urien and nephew of Llew, showing some sort of agreement with the Welsh powers. I imagine Edwin's adoption of the tufa standard, the feathers of the Welsh princes, is a further mark of this. (Edwin was stopped by the frontier at the Ettrick, outside of Cumbria proper.)

But St. Helena is so obviously the saint whose name would be given to High Cheviot, that I wonder the name had not occurred to me in connection with Hen's Hole.

Hen is probably a Celtic genitive for *saint*; but it is apparently mixed up with the Celto-Italic *sen*, old, which is so widely used as a term of respect; the extreme case perhaps being in Italian, where a little girl, if a gentleman's daughter, is a *signorina*. It is probably a native Welsh word, for, though Latin was and is freely borrowed in Welsh, *Sen* is used in Gaelic, genitive, *hen*.

It may be mentioned that by one of the caprices of language, a word that often represents *saint* in Gaelic is *Og*, a term of endearment, of which the principal meaning seems to be *young*. It is used as a diminutive in the western lowlands.

Hell has kept its ground as the adjective in German, as *Bright* has in English; there is nothing analogous to *bright* in the German dictionary.

I rather think it was in the same letter, in which he gave the Percy form of the Hen's Hole legend, that Dr Hardy mentioned a sea cave near Cockburnspath, in which there is an army asleep, who are to rise and save Britain when on the point of being conquered. This is interesting, as the Welsh form of the belief recurs on the Cumbrian frontier at the Eildons.

The Antiquity of the Ballad of Auld Maitland.

By MISS RUSSELL.

SOME interesting circumstances regarding Sir Walter Scott's first publication would have been mentioned in one or other of my papers of notes concerning him, if I had been fully aware of them. It has been long known, and, I have been told, was in Sir Walter's lifetime, that two of the most notable ballads in the Border Minstrelsy are not old at all, but are by Mr Surtees, of Mainsforth—"Maister Sortiss," as Sir Walter's retainers called him.

These are the beautiful "Bartram's Dirge," and one of the most ferocious of the fighting ones, I am not sure which.

Now it has been suggested that *Auld Maitland* was not above suspicion; a long ballad of the times of chivalry, concerning historical events, more or less, transmitted entire, and known only to one reciter; and that reciter the mother of the Ettrick Shepherd, did seem too good to be true.

I was aware it had been verified in some degree, but had forgotten what the testimony exactly was, till I came upon a newspaper cutting which mentions that Dr Carruthers (who seems to have recorded the incident in print) had accompanied Sir Walter and Leyden to the Laidlaws at Blackhouse, in Yarrow, where Hogg was then shepherd.

The cutting is marked as being from the *Border Advertiser*, and of date March, 1877. It seems to contain part of a description of an excursion among the hills, and says:—

"A more out of the way dwelling cannot be imagined than this same Blackhouse, and yet it is a shrine of pilgrimage to the lover of Border lore, and reader of Border minstrelsy.

Here was born William Laidlaw, the author of 'Lucy's Flittin', the friend of Hogg and Leyden, and the factor and amanuensis of Sir Walter Scott."

The Ettrick Shepherd spent the third decade of his life at Blackhouse, tending the fleecy flocks of Laidlaw's father, and developing himself as a poet. It was in a cottage here that the parents of Hogg ended their earthly career.

They both lived beyond the allotted span, the father expiring in the 93rd year of his age, and the mother in her 83rd.

When Scott and Leyden were ranging the forest for Border ballads, they called upon Laidlaw at Blackhouse.

He knew of their coming, and had been gleaning mountain and glen for ballads; and when he produced his treasure of "Auld Maitland" (says Dr Carruthers) "Leyden seemed inclined to lay hands on the manuscript, but the Sheriff said gravely that *he* would read it.

"Scott read with great fluency and emphasis. Leyden was like a roused lion."

The writer of the article continues:—"On leaving Blackhouse our muirland way was exceedingly rough, and seemed at times to be almost inaccessible; but when we entered Hawkshaw Doors, a narrow pass not far from Dryhope, St. Mary's Loch once more appeared in view.

"It was at this spot that Leyden was so enraptured with the sight of the lake that he suddenly drew bridle, sprang from his horse (which he gave to Scott's servant), and stood admiring the Alpine prospect."

Now there is a story in Sir George Douglas's "Life of Hogg" which becomes of great interest in connection with this; indeed, it bears on the whole class of literature.

Hogg himself says, "My mother chanted the ballad *Auld Maitland* to him, with which he was highly delighted, and asked her if she thought it had ever been in print. And her answer was:—"O na na, sir, it never was printed in the world, for my brothers and me learned it and mony mare frae auld Andrew Moor, and he learned it frae auld Baby Maitlan'."

This personage was said to have been "another nor a gude ane," about whom many queer stories were told.

"But O, she had been a grand singer o' auld sangs and ballads."

The woman's name being Maitland goes a long way to account for the preservation of this particular ballad; and family or local associations may account for that of some of the others which Sir Walter retrieved.

There is a mistake, very natural seeing how excited he was about it, in Sir Walter's account of the first discovery, written to Mr Ellis, which is quoted by Lockhart both in the original and the abridged *Life*; he says it had been written down from the recitation of an old shepherd by a farmer, who is no doubt his friend William Laidlaw; though his father was probably still the farmer of Blackhouse.

Sir Walter's reading off the manuscript as he did, shows how good and how familiar to him Laidlaw's handwriting must have been. While it was almost certain he would go and see the reciter of Auld Maitland himself.

Many of the better-known of the old ballads were in print in broadside or leaflet shape. As a transition phase of minstrelsy, it is perhaps worth recording that at Dunglass, on the high-road between Dunbar and Berwick, well into the nineteenth century, the maids used to get a *ballad for the washing day*.

They sang together as they stood at the tubs, no doubt knowing the tunes well enough; while, whether they knew the words or not, a printed ballad would keep them from straggling into different versions.

Sir Walter got the ballad, which he published under (I suppose) its street ballad name of the Douglas Tragedy, from Mrs Hogg; but he also had it in broadside form; though it is quite possible he did not tell her so.

Every now and then one comes upon something uncollected still, perhaps rather modern. The better-known version of the *Bonnie bonnie banks*, about which there has been some discussion, was, I believe, written down by Lady John Scott from the singing of a boy in St. Andrew Square in Edinburgh, she having heard him from the window of Douglas' Hotel.

It should perhaps be added that a song or ballad of *Auld Maitland* being mentioned by one of the Scotch poets does

not tell either way as to the genuineness of Sir Walter's copy, for this might have suggested it.

I find there was a well-known Dr Carruthers at Langholm; and the one who was one of the party at Blackhouse might not improbably be his father.

The late Dr Anderson or his sister would probably have known who they were.

It may be noted that those who suppose Sir Walter Scott wrote the Border Minstrelsy are not aware—and, indeed, it might have no significance for them—that everything he wrote in his own character in the ballad measure, no great quantity, is marked by the first and third lines rhyming as well as the second and fourth. This is of the rarest occurrence in the first and second parts of the Minstrelsy, and in old ballad literature generally. The difference may be seen in the very well-known "Jock of Hazeldean," of which the first eight lines are said to be old, while the rest was written by Sir Walter.

Crailing or Traverlinn and some other Old Names.

By MISS RUSSELL.

ATTENTION has been called to the fact that Crailing, in Roxburghshire, is called in the older documents *Traverlinn*. While I think this unusually great change in the name is merely owing to one of the errors of transcription common in black letter writing, in which the T, E, and C are so like that one wonders how it worked at all in legal documents, the class of names this belongs to is a very interesting one. Mr Skene was puzzled by it. In a note to *Celtic Scotland* he gives a list of eight or nine names beginning with Traver, none of which are now used exactly in their original form, though none of the others are so much changed as Traverlinn. While it has a Cymric sound, Traver does not occur in Wales (there is a Trevor Hall, but that is the name of the owner.) Tre or Tref on the other hand, is house, village, or town in Welsh.

And it only struck me lately that the Travers are explained by an opinion of Mr Skene, which he does not explain his reasons for, and which may probably have been formed on very slight indications, that the Welsh spoken in Scotland, the language of Cumbria, or Strathclyde, or the North, as it is called in the older Welsh documents, belonged to the same class as the Cymric of Cornwall, of which there are literary remains enough to judge by, and that of Brittany, both of which differ considerably from the Welsh of the Principality. In Welsh, as is well-known from names like Bettws y Coed, etc., etc., *the* and *of the* are equally represented by *y*, *ys*, and *yr*, according to circumstances; but in Breton and in Cornish it is always *ar*, which satisfactorily explains the Travers.

The most important in the way of history are the Trabrouns, places of rushes, for *brun* is distinctly Welsh, the Gaelic for rushes being *luchair*. All the others of Mr Skene's list might equally be Gaelic, or Gaelic-Latin, unless Travernant.

Traquair is Travercoir, the township of the choir, or church. This had probably belonged to the old Cumbrian church, which seems to have been almost annihilated at the conquest of Cumbria. The bishopric of Glasgow was left vacant, and Traquair appears as a royal residence just after the time of David. Traverlinn would be the township of the lake, or waterfall, or ravine. *Trailtrow* (in Dumfriesshire) is Trevertrold, the township of St. Trolhena. Terregles, another church-township, probably belonged to an extinct Celtic church.

Traprain, in East Lothian, I should expect to find had been Traverpren; *pren*, being a Welsh word for wood, of which *press*, occurring in the neighbourhood, is the Gaelic form. The ridge of Traprain would naturally be wooded, while the low grounds were marsh.

Migen for marsh is a distinctively Welsh word, and there is a Meigle moss between Galashiels and Clovenfords.

Meigle, in Perthshire, where the wife of Arthur is said to have been a prisoner, with a number of other Britons, is a marshy locality; and Hatfield, in Yorkshire, where Edwin was defeated and killed, is called Meicen in the Welsh accounts, and it is said to have been the official draining of the great marsh there, on which the people of the country lived by fishing and fowling, that made Yorkshire so parliamentary in the civil wars.

It seems likely that the old language, as far east as the Ettrick, having been a form of Welsh, and that apparently discouraged as much as possible by the authorities, may account for there being much fewer Gaelic place-names than one would expect in Selkirkshire and Roxburghshire, where a very large proportion of the words of the local dialect are either Gaelic ones still in use in the Highlands, or belong to poetical or literary Gaelic. The Scotch kings of the race of Kenneth MacAlpin might not have been averse to introducing Gaelic, and the later Kings of Cumbria were a branch of the Scotch royal family, elected by the Cumbrians in 908, when the *Roman* line failed; but after the conquest and cession, at so late a date as 945, the Saxon of Northumbria would more naturally make its way into the district. Duncan I., who succeeded his grandfather, had the title of King of Cumbria.

A few hill names are distinctly Welsh. Pen in fact is only about one remove from a living word; Pont gives *the Pen of Eskdale Moor*; and I was only slowly convinced that the Lee Pen, the picturesque pointed hill opposite Inverleithen, was not a Gaelic Ben Lia, a grey or stony hill, but the Pen of the Lee, a farm with an old tower in the valley of the Leithen. Penchryst is pronounced Pen-Christ; and I should be inclined to connect Penangushope (though I do not know exactly if it is a hill) with the Welsh St. Angus of Balquidder. The Dunion, the hill of St. John, near Jedburgh, is Gaelic, and has a duplicate near Inverness. The Herman Law, at the head of St. Mary's Loch, shows that a remembrance of St. German had come down to Saxon times. Andrewhinny, for the higher hill on the other side of the road into Dumfriesshire, it certainly Andrew Hen, St. Andrew, who would be adopted about 700 by the Cumbrians.

I observe an interesting Gaelic word, which we have not, as far as I know, either in Roxburghshire or Selkirkshire, much further south; though I am not altogether surprised to find it where it is.

In the *Northern Counties Magazine* for April 1901, there is an extract from a North Yorkshire dialect poem of date 1685; and in this, a *skeel o' burn* means a vessel of water, *burn* being the regular word in Gaelic for water for drinking or cooking. In the Scotch lowlands it has come to be used for a small stream, which is *allt* in the Highlands.

But it is not very strange to find a bit of genuine Gaelic in North Yorkshire, two hundred years ago, for the Humber is understood to mean the River of the Cumbrians, and is what it would be called by Gael to the northward; if the inflection had been Welsh, it would, I suppose, have made it *Gumer*.

Of course the Welsh on the Humber would not be the northern Cymri, but the same British natives whom St. Guthlac described as demons speaking Welsh, in the fens.

I do not know exactly what a small stream is called in the north of Yorkshire. Beck must be the German *bach*; *brunnen* is, I think, a well in German, and *quelle* a spring. The English *brook* I am not sure of any analogies for. Burn may be sometimes mixed up with bourn, a boundary.

The best known Gaelic word for water is *uisge*; it forms *uisge-be*, water of life, and is used for rain. Sea-water is *salus*.

Duncan, King of Cumbria, appears by another designation, which is of interest, both as a historical point, and as yet another case in which Mr Skene was right, on grounds which he had hardly understood himself, or at least which seem very slight.

He says there is a personage in the northern Sagas who can be nobody but Duncan I. of Scotland, but he is called *Kali Hundason*, of which he (Mr Skene) can make nothing but the Carle, the Son of the Hound.

The father of Duncan was Crinan, the lay-abbot of Dunkeld, and a great secular chief, who had married one of the daughters (Bethac, I think) of Malcolm II.

And I only noticed lately that in the next generation there is a member of the Scotch royal family called Madach, Earl of Athol. It is not certain whether he was a son of Duncan I., a younger brother of Malcolm and Donaldbane, or a son of Malcolm's first marriage with Ingebiorg, widow of the Earl of Orkney, and a brother of Duncan II.; but he is one of themselves. Now Madach means *hound*, and as Crinan is almost obviously a *sobriquet*, being the exact equivalent of the English *Tiny*, which, whether applied to a very big or a very little man or woman, is sufficiently familiar, it is likely that Madach, Earl of Athol, had received the Christian name as well as the territory of his ancestor, the latter modernised from an abbey to an earldom.

It is in the Orkneyinga Saga that Kali Hundason appears, fighting his northern cousins—Thorfinn, Earl of Orkney, was the son of another daughter of Malcolm II.—but in the Niala Saga *Earl Hundi*, who I have no doubt is Crinan himself, is seen also fighting the Norsemen, along with Earl Malsnati, a Gaelic Malsnechtan.

It is possible the common old Gaelic name of Madach may have been given in the sense of *wolf*, which is the *wild hound* in Gaelic; *Polmadie* is understood to be the Wolf's Pool; and from the analogy of Ethelwulf and the Welsh Bleddyn, *Breoch*, meaning wolf, which is said to have been St. Columba's baptismal name, is probably the real Gaelic word.

Some Notes concerning Ashiesteel.

By MISS RUSSELL.

It is perhaps worth mentioning, as a fact in forestry, that the oak-tree beside the river at Ashiesteel, under which Sir Walter Scott undoubtedly had a seat, but which is not, even now, a very large one, produced acorns in the season 1901, for the first time, as far as it has ever been observed. It was, of course, a very warm summer, but this was probably really a sign of decadence in the tree, which a large crop of seed is well known to be. When the long branches were broken by a snowstorm, some decay of the trunk became visible; and though the tree has grown very fairly, the injured branches being amputated by degrees, one of the uprights fell off in 1901, apparently by its own weight, when in full leaf.

The statement to be found in Mr Craig Brown's History of Selkirkshire, that James Russell, son of the William Russell who bought Ashiesteel, was at one time chamberlain to the Duke of Buccleuch, is apparently founded on the old document given in Sir William Fraser's "*Scotts of Buccleuch*," a receipt for the rent of the farm of Deloraine, given by James Russell, younger, of Ashiesteel. Though it is not unlikely in itself that he should have held that appointment, as the preference generally is for a landed proprietor, or his heir, to act as *deputy-proprietor*, where the estates are large and scattered, it seems unlikely that the circumstance of his having done so should be quite unknown to the family. And on the other hand it is very probable, from other circumstances,

that he had been farming Deloraine, and been allowed to sublet.

There was not much choice of professions in Scotland in the half-century between the second Union and the expansion of the "Empire" in the latter half of the 18th century.

A younger brother, William Russell, had exhausted the law, and was a Principal Clerk of Session. It may be mentioned that he married the widow of either the last, or one of the last of the Napiers of Kilmahew, an old stock which seems to have entirely disappeared; Lady Kilmahew as she was called. They had one daughter, who married Mr Reid, and also had one daughter, who lived to a great age, as Mrs Anne Reid; and when she died, in the latter half of the nineteenth century, endowed a small school for boys in the southern part of Edinburgh, which was going on up to the School Board period, and has probably been absorbed into something else.

A third brother, Alexander, was farming Elibank when he was drowned crossing the Tweed. He must have been a fine young man. I think the same feat has been done elsewhere, but it was remembered that at an election at Selkirk, when the people of the town chose to be dissatisfied with the choice of the limited number of freeholders who settled it, they, the proprietor-electors, were besieged in the inn by the mob, and it seemed as if there might be some difficulty in getting away. When Alexander Russell jumped from the window on to the heads of the crowd, and cleared a space round the door with his hunting-whip! A son of his, who must have been born before they went to Elibank, at Windydoors on the Bowland estate, has never been altogether forgotten; Russell's *Ancient and Modern Europe* long kept its ground as a standard book. It is De Quincey who says he had never lost his first impression of Homer's Iliad, from Russell's paraphrase, in a style that rather suited a boy. (James Russell, of Ashiesteel, seems to have been an active yeomanry man. I do not know what caused them to be embodied about the middle of the 18th century, but Pringle of Torwoodlee was the commander.)

I was one of the, probably, very few people concerned who refused to subscribe to the Tweed hatchery; thinking that whether or not the water of the river is diminishing, the stock of salmon is ample.

That there was a sufficient stock, with the apparently diminishing water of the river, was the reason given by the Tweed Commission (I think) for not taking it up. Whether the water really is diminishing it is impossible to be sure, it varies so much in different seasons.

One does not see why it should be, for ploughing the hills, and, to a great extent, draining, almost stopped when the bad times began in 1880. While it is impossible to say exactly what the effect will be of the great reservoir at the head of the river.

As regarded the hatchery, it certainly neither had the credit nor the blame, for it was only started in 1899, I think; but not only was the salmon fishing season of 1900, in the upper waters, about the best remembered, but the salmon-disease has since broken out again, after an absence, it is said, of six years, from the over-crowding of salmon in the shallow waters where the spawning beds lie, within reach of the sun's heat.

While the healthy full-grown fish are arrested, to an extent that there is certainly some mistake in allowing, by the stake-nets, of which there are actually more than one for every quarter of a mile of coast between Berwick and John o' Groats.

The curious fact that ground which has been wooded will produce young trees after being pastured for an indefinite length of time, if not ploughed up, has been demonstrated almost as clearly, on a small scale, at Ashiesteel as in Cyprus, as described in what is really a book of travels Mr Rider Haggard is publishing in the weekly *Queen*, under the title of "A Winter Pilgrimage."

He says, the mountains of Cyprus were "as bare as a plate" when he was there fourteen years before; and now, where protected from cattle, they were covered with young wood.

Sir Walter Scott laments in his diary the clearing away of the natural wood in the "romantic pasturage" called the Cow park, at Ashiesteel, during the absence of every one interested in the place.

A narrow strip of plantation was made on the upper side of it, along the high-road, the soil of which was not ploughed; and on enclosing a small portion of this, long after the planted trees had grown to a good size, wild roses and broom came up at once.

While no natural growth appeared in a small clump of trees planted, and equally protected, near the farm-house, where the ground had been often, though not constantly, ploughed.

A tradition had arisen that the upper strip was planted by Sir Walter, though nothing can be clearer than his statement about the natural wood in his day; and it is not unlikely he suggested planting some birches. A woman who came to the place in 1819 said "the Cow park was like a forest." And another member of this family—"A great many of the trees was birks, and they sauld them to the powder-mills."

It is well it should be known that the son of his brother Daniel, whom (Lockhart says) Sir Walter Scott took charge of after their mother's death, eventually developed into a creditable citizen, though he seems to have been among the trials of Sir Walter Scott's last years. He says that the young man (who was not allowed to use, or at all events never did use, the name of Scott) had fully inherited the "dour temper" of the family.

Elsewhere, on the death of a relation, he mentions the "indifferent temper" of the "Sandyknowe bairns"—his grandfather's family.

Daniel Scott's son must have been growing up just about the time that Sir Walter's embarrassments became known; and he was assisted, though I do not know exactly at what time, with a loan of a hundred pounds (a good deal more then than it would be now) to begin a small business, by their cousin, Colonel, afterwards Sir James Russell.

He also was able to give him a certain amount of employment, and this had the further effect of facilitating the repayment of the obligation.

After a time he began sending in his annual account *receipted*, and had *grit* enough to go on doing so until it was all paid back.

He and his successors continued to be employed after Sir James's death, till comparatively of late years, when a complete change of persons in the business, and of other things, made it no longer necessary or desirable to continue "thirled" to the concern.

It was his brother Daniel to whom Sir Walter said he had intended the character of Conachar, in the *Fair Maid of Perth*—a study of constitutional want of nerve—as a kind of act of atonement, thinking he had been too hard on him in his lifetime.

Some Historical Notes on the Church and Barony of Linton in Teviotdale. By REV. JAMES FLEMING LEISHMAN, M.A.

THE Church and Barony of Linton in Teviotdale, to revive an ancient and picturesque title, first emerge into the clear light of history in the reign of William the Lion, when William de Somerville conveys three acres of land, "in villa de Lintun,"* tithe free, to the church of St. Kentigern in Glasgow, with consent of Edward, the then Rector.

This ancient Norman race of Somervilles, whose peerage is now extinct, played an important part in our early annals. According to Chalmers, the original immigrant from Normandy to England was Walter de Somerville, who came with the Conqueror; while his son, William, was the first to settle in Scotland. In 1297, Walter de Somerville of Linton and Newbigging, along with his son David, knighted by Robert the Bruce, appears in command of the third brigade of horse, at the battle of Biggar. For near two and a half centuries they dwelt in their moated keep on the neighbouring knoll, and dying, were buried in this church. So late as 1426 we find Thomas, Lord Somerville, causing "repair the kirk and quier of Linton, and the tower," but by the end of the 15th century the Somervilles have vanished from the Borders, and must be sought at their Lanarkshire estates and castle of Cowthally. The superiority of the barony, and the patronage of the living they seem, however, to have retained to a later date. Witness in evidence a sasine,† "given at the cross, upon the green in Lyntoun,

* Reg. Episc. Glasg.

† For this information I am indebted to the Rev. John Anderson, M.A., Assistant Curator of the Historical Department, General Register House, Edinburgh. The sasine in question occurs in a MS. Protocol Book of Sir William Corbet, Notary Public, 1529—1555.

last day of February, 1540." By this time Linton had passed into the hands of the Kers, an offshoot of the Cessford family. For the next two centuries their name figures prominently in the civil and military annals of Teviotdale. A graphic view of the castle and its inmates is afforded us one July morning in 1522, when the English warden with 2000 men "set upon it with spear and shield, and, or it past noon, wan it, and burnt it clene down to the bare stane walls. Notwithstanding, all the men that were therein, which was sixteen, were saved, by reason of a gable of the house, that was of stone, and the wind, which was their friend, for betwixt the said gable and the batialing they lay until the huse roof was fallen, when their enemies left them, all except one Robyn Carr, which came down in a rope when the huse was first fired."*

In the now disused churchyard of Lyndean, near Selkirk, may still be seen a weather beaten tombstone with this inscription:—"To the happie memorie of twa honorabill personis, Andrew Ker of Lintoun, and his spouse Catherine."

Near the close of the 17th century the barony passed, by purchase, into the hands of the family of Pringle of Clifton, whose most distinguished scion was John, Lord Haining. Apparently they presented to the Church the silver Communion cups now in use, and the Church bell, one of the finest toned in the neighbourhood. Embossed upon it is this inscription:—"Linton, 1697, John Meikle me fecit Edinburgh." From the Pringles the barony passed, under the entail, to Robert Ker Elliot of Harwood, and his son, the present proprietor.

No stone of the ancient Linton Tower now remains above ground, only the general line of the fortalice is still clearly traceable, with a deep hollow where the dungeon lay.

Turning to the churchyard, one cannot venture upon any decided opinion as to the origin and structure of that singular mound of pure sand, on the summit of which the Church stands. Legend affirms it to have been sifted by two sisters by way of penance, to save the life of their brother, condemned to death for the slaughter of a priest. Science informs us

* Morton's Monastic Annals of Teviotdale, p. 26.

that Haughead Kip is a similar accumulation of sand, and both may be ascribed generally to some form of wind and water action. The very name of Linton (the same Lin as in Linlithgow) reminding us that the whole basin of this valley was once covered by an extensive loch, the last portion of which was drained only in 1832. In ancient days this loch must have formed a striking feature in the landscape. Thus, we find an instrument,* dated 21st April 1539, whereby "Lancelot Ker, called Lance Ker, son to Andrew Ker of Gaitsshaw," is infefted in certain lands—"beginning at the Loch of Lyntoun towards the East."

The gravestones are not of surpassing interest, the friable nature of the stone used in this neighbourhood for that purpose making the inscriptions, unfortunately, very short-lived. Still, it is on record that not a few illustrious men lie buried here. Take, for example, all the earlier Lords Somerville. Thomas, sixth lord, was the first to depart from the rule, since, upon his death-bed, he bade his son bury him "in Cambusnethan quier," beside his wife. Beneath the pavement of the Church there moulders, also, the dust of many generations of Graden Kers. This ancient race was attainted in the '45, and deprived of the small estate which they had held, in unbroken descent, since at least the time of Flodden. The last laird, Colonel Henry Ker, took a prominent part in the rising, serving nominally as aide-de-camp to the Prince, but practically as Quarter-Master-General to the expedition. One interesting tomb is that of the Pringles, tenants of Blakelaw, who emigrated to the Cape in 1820. Here is buried the mother of Thomas Pringle, the South African bard, author of "Afar in the Desert" (and other poems), adjudged by so excellent a critic as Coleridge, "one of the two or three most perfect lyric poems in our language." Another tomb worthy of notice, though quite modern, is that of Thomas Barnewall, 16th Lord Trimleston, the stone railing being copied from a portion of Jedburgh Abbey.

As to ecclesiastical monuments, the most precious perhaps is the Norman font.† Like all genuinely ancient fonts, it is

* Vid. Protocol Book of Sir William Corbet.

† Vid. Ber. Nat. Club Transactions for 1850, p. 44.

of a size sufficient to admit of immersion, and its appearance reminds us of a curious old Border usage,* namely, that in Medieval times, in a family of moss troopers where a blood feud existed, it was customary at the christening of every man-child to hold him by the right hand, so that, when the little one grew to years of discretion, his unchristened sword arm might stab the foe of his race without deadly sin. This old font has passed through many vicissitudes of fortune. In 1868 it was restored to its rightful place of honour in the sanctuary, and is now once more in use.

The roll† of clergy who have ministered in this Church since the Reformation is also of interest. As regards the pre-Reformation clergy, it is impossible now to furnish a complete list. Only a few names survive. Possibly, the earliest on record is that of *Blahan*, "Presbyter of Linton," who was present at a meeting of the clergy of England and Scotland, for the consecration of Robert, bishop of St. Andrews, in 1127. About 1160, *Edward*, who was parson of Linton for over twenty years, sanctions, as before mentioned, the transfer of a grant of land to the Church of St. Kentigern in Glasgow. *Patrick*, parson of Linton, witnesses a Melrose charter in the reign of Alexander II. *Richard de Skypton*‡ was presented to Linton on 3rd March 1357, and *Richard Prodham*§ in December 1360. There is also a presentation by the 9th Lord Somerville, dated from Cowthally, 21st May 1459, to Mr William Blair. For the rest, "their memorial is

* This usage was not, however, peculiar to the Scottish Borderers. It prevailed also among the ancient Irish. Leyden has woven it into his "Ode on visiting Flodden," describing how—

"At the sacred font the Priest
Through ages left the Master hand unblest,
To urge, with keener aim, the blood encrusted spear."

† Vid. Ber. Nat. Club Transactions for 1879, p. 29.

‡ Rotuli Scotiæ, Vol. I., 820, 852.

§ Presented to Linton by Edward III., the latter were both doubtless Englishmen, Easter Teviotdale, dominated by the castle of Roxburgh, recently ceded by Balliol, being then under the English crown. In 1385, and afterwards, most of these southron incumbents were driven out of their livings.

perished with them," and, when the curtain rises, after the Reformation, Thomas Moffet is acting "reidar at Linton" in 1572, with a stipend of 20 merks. Like the vast majority of that class of functionaries, he was probably an old priest.

It thus appears that, prior to the Reformation, Linton in Teviotdale was an independent rectory, the advowson being vested in the Lords Somerville, and their successors. At Hoselaw, however, in the upper end of the parish, within a mile of England, there was a small chapelry which belonged to the Abbey of Kelso; the "plewlandis of Hoselaw"* being valued, in the rental of that abbey, at 40s. The ruins of this chapel, with a small burial ground attached, were still visible in the eighteenth century. To this day the eminence on which it stood bears the name of the Chapel Knowe, while the site is marked by an ancient platanus which grew against the churchyard wall.

Turning to the list of clergy who have ministered here since the Reformation, WALTER BALFOUR, last of the old Roman rectors,† conformed in 1560, and enjoyed the somewhat rare distinction of sitting in the First General Assembly, in the Magdalene Chapel. Shortly after the Reformation he retired, and settled in Fife, where he married Elizabeth Balfour, widow of Troylus Grigsoun, burgess in Leslie; and died, exhorter and reader, at Kinross and Orwell, in 1589.

JOHN BALFOUR, M.A. (1610-1616) was a graduate of St. Andrews, and a member of the Glasgow Golden Assembly,

* Liber de Calchou, p. 491.

† It must be noted, however, that he has also been claimed by West Linton (or Linton Rotheric), in the deanery of Peebles, without reason, as was supposed at the time the list of clergy, published in a previous volume, was first drawn up, since that was a vicarage, an appanage of the Abbey of Kelso, and this an independent rectory. Cosmo Innes, however, has shown, in his *Origines Parochiales*, that Walter Balfour, vicar of the other Linton, was also lessee of the rectorial tithes, which gave him some warrant for describing himself as rector. In the Lesmahago Papers, anno 1556, "Magister Walter Balfour, rector de Lintoun," appears as an auditor. Whichever place claims him, he is scarcely a character to be proud of. Living in an age of sacrilege, evidently he belonged to the too numerous class of ecclesiastics who trafficked in teinds.

but got no share of the royal bounty, since he voted *non liquet*.* He was minister of Linton and Yetholm, making his abode, apparently, at the latter village. "He taught not at the kirk of Linton because it was altogether ruinous,"† hence, it is plain, the parishioners here can have derived little benefit from his ministrations." After six years, evidently under pressure from Lord Jedburgh, who then owned most part of the parish, John Balfour "demitted the parsonage." In 1618 he married, and that same year sat in the Perth Assembly, which passed the famous Five Articles.

ROBERT KER (1619-1658), presented by his namesake Sir Robert Ker, probably of the Hirsell, first appears at Kelso on 2nd February 1619, bearing a letter from Archbishop Spottiswood to the Presbytery, desiring them to send‡ Mr Ker "to Linton to teach." In 1621 he got into trouble for marrying James Law, the Archbishop's son, to Margaret Haitlie, in Smailholm Church, the ceremony having taken place without any proclamation of banns. As the Archbishop had a double interest in the affair, the Presbytery wrote to ask his advice, and, in reply, the prelate sent a judicious letter, which buried the matter. Inheritor of the traditions of an earlier and laxer age, we find Robert Ker at the village hostelry, one winter evening in 1650, drinking ale and playing cards with "George Ker, uncle to the laird of Linton." After an incumbency of eight and thirty years, being now grown "aged and infirm," it was proposed that he should have help in his pastoral duties, but before the necessary steps could be taken, early in 1658, a Linton elder came to the Presbytery with the announcement—"It has pleased God to take from us by death our laite minister, Mr Robert Ker." The name of this elder was also Robert Ker. In proof of the changes wrought by time, it is curious to note that while Scotts are still plentiful as blackberries, the once powerful name of Ker has almost completely vanished from among the peasantry on the Middle Marches. At present there is only one householder

* Calderwood, VII., 97.

† Presb. Reg.

‡ Presb. Reg.

of that name in the parish. One interesting relic of this incumbency is the old dead bell. Now, alas! it is cracked and voiceless, but round the outer upper rim is still clearly embossed the legend, Mr R. Ker, Lintoun.

ROBERT BOYD, M.A. (1658-1662). Restored (1690-1697.) A Westland Whig and Protester, he first came into the Border country as chaplain to the Earl of Home. As the Presbytery, with only two exceptions, were Resolutioners, he probably won but little sympathy from his clerical brethren. Although "outed" in 1662, he was clearly no extremist, since we find him, at a later period, accepting the Indulgence at West Kilbride, in Ayrshire, his native county. So, again, in 1684, when some of the high flying Covenanters were brought to court, after the Archbishop's murder and the consequent rising, Mr Robert Boyd is "known to have been *notoriously loyal*, and refused to read the rebels' proclamation." On his refusal, however, in December of the following year, to give a bond that he would not minister anywhere in Scotland, he was cast into prison, but released in January, and "confined to a house in Edinburgh."* After an absence of eight and twenty years Robert Boyd was restored to Linton, at the Revolution. He came home an old, spent man, and lingered on here for seven years. One piece of clerical duty allotted to him during this period was to provide a sermon for the ordination, at Ednam, of Thomas Thomson, father of the "Scottish Virgil." Stern Covenanter though he was, evidence is not lacking that he could, on occasion, enter with zest into mundane employments and recreations. Thus, for instance, in the autumn of 1659, we find it recorded that there was "no exercise,"† because the exerciser, Mr Boyd, was "so much taken up with the bigging of his house." While one winter evening, in the old manse, his voice is heard bidding Susanna, his servant, to fetch him a candle, "that he might take ane pipe of tubaccall." Among his own party‡ Mr Boyd was accounted "a very knowing man, and of great experience in matters of discipline." At length, on the plea of "weakening

* Wodrow, II., 204; III., 468; IV., 40.

† Presb. Reg.

‡ Kirkwood's Plea.

memory," he was allowed to resign his charge, and retire, to spend the evening of life, "with his friends in the west country."

With regard to the two Episcopal incumbents who were ministers of Linton in the interval before the Revolution almost nothing is known. JOHN BROWN, M.A. (1664-1683), was a graduate of Glasgow, and had been formerly minister of Tinwald. Settled at Tinwald in 1655, during the Commonwealth period, Mr Brown must, originally, have been ordained under Presbytery. It is interesting to recall that he was present at Roxburgh Church that March morning in 1672, when Bishop Leighton came riding down from Glasgow to institute Mr John Dalgleish, ordination not in the Cathedral, but in the Parish Church which the candidate was to serve, being one of the articles, in that celebrated treaty of accommodation, whereby Leighton sought to heal the breach betwixt Prelacy and Presbytery. After a ministry of nineteen years in Linton, he was translated to Westerkirk.

JOHN WILKIE (1683-1689), Student in Divinity, was taken on trials under an order from the Archbishop. His incumbency here was brief. Refusing to pray for William and Mary, he was deprived of his living at the Revolution. He afterwards settled in Kelso, where he ministered to a congregation of Nonjurors.

WALTER DOUGLAS (1698-1727), of the house of Bonjedward, was born in 1673. From a bond* for £700, granted to him by his Jacobite neighbour, Henry Ker of Graden, we learn that he had three daughters—Elizabeth, Isobel, who afterwards married Rev. Charles Douglas, minister of Cavers, and Wilhelmina, spouse to Dr John Tait, a physician at Dalkeith. In his day the manse, having been found "hazardable for the minister and his family," was rebuilt. This edifice, comprising the rear portion of the present manse, was demolished only last year, and handsomely restored. Two of the old walls, however, were left standing, one that which faces the manse garden. They

* Forfeited Estate Paper.

have thus weathered the storms of over two centuries, and witnessed the coming of seven incumbents. The cellarage below is older still, being probably a relic of the manse erected at the coming of Robert Boyd, in 1659. Walter Douglas died in 1727, leaving behind him an admirable volume of "Eleven Sacramental Sermons," published in 1725, and dedicated to Jean, Lady Cranstoun.* The crown of his tombstone, bearing the family arms and motto—Honor et Amor—may now be seen built into the eastern wall of the Church.

GEORGE HALL, M.A. (1728-1740), was formerly minister of Abbotrule. There is reason to believe that he was a grandson of the famous Covenanting leader, Henry Hall† of Haughhead, only three miles beyond the boundary of the parish of Linton. Henry Hall died of his wounds, near Queensferry, on 3rd June 1680. It is well known that his grandson, who conformed to the Church of Scotland, was, in consequence, disinherited by his Cameronian father, who left past him the famous "Bluidy Banner," which had waved at Bothwell Brig, with the sanguinary motto—"No quarters for ye active enimies of ye Covenant." If one may judge of him by his published sermons, George Hall was a man of no small parts and piety. He was buried on 2nd December 1740, and left behind him three sons, one of whom, Robert, afterwards became Presbytery Bursar.

JAMES TURNBULL (1743-1780), a native of the parish of Sprouston, was presented by John Pringle, Lord Haining, the living having stood vacant for nearly two years after Mr Hall's death, owing to a dispute about the patronage. Mr Turnbull may, perhaps, chiefly be remembered for a lengthy law plea which he instituted over the glebe lands. This ecclesiastical cause célèbre, after dragging on for many years through the Court of Session, ended in a compromise. Mr Turnbull was the first permanent Clerk of Presbytery,

* Crailing, near Jedburgh, was their family seat, till the Cranstoun estates were sequestrated, about 1752.

† Vid. Ber. Nat. Club Transactions for 1879, p. 22.

and the old usage of the "exercise" seems to have died with him. His first wife, Rebekah, being a daughter of Andrew Ker Read, portioner of Hoselaw, his name may be found upon their tombstone, against the church porch, but the Latin inscription is now hardly legible.

ANDREW OGILVIE (1781-1805), his successor, came from Newcastle. The maiden name of his wife, whom he married in November 1767, was Alice Lomax. He has left a quaint memorial of his incumbency in the round O wrought in white slate upon the roof of the manse. Until Mr Ogilvie's day both church and manse had been thatched, and slates were then a novelty, worthy of being commemorated.

The list ends with WILLIAM FAICHNEY (1805-1854), a native of Muthill, in Perthshire. Old people still remember him as "a little fair man with a ruddy countenance," He died here at the ripe age of ninety-one, and was immediately succeeded by the present senior incumbent of this living, the Very Rev. THOMAS LEISHMAN, D.D.

Leaving the Church one notes, resting against the south wall, two oblong stones, evidently the broken halves of the cover of an ancient stone coffin. This cover was unearthed at the chancel end of the Church, in the earlier part of last century. It was then unbroken, and is supposed to be a piece of 15th century work, from the character of the filleting.

Last, not least, there is the Somerville Stone, set in the tympanum of the Church porch, and reproduced in Plate XXI. So much has been said and written about this famous sculpture, and it has proved such a bone of contention among antiquaries, one dare not dogmatise upon the subject; only, in view of the familiar explanatory legend, embalmed in the "Memorie of the Somervilles," this at least may safely be said, that it is highly improbable the sculpture represents the combat of St. George and the Dragon. An attempt* has been made to claim the Linton stone for St. George, on the strength of

* Ant. Proc., Vol. xvii., p. 332.



THE SOMERVILLE STONE, LINTON CHURCH.



a remote resemblance between it and a fragment, built into the wall of an old Norman church, at Fordington, in Dorset, representing a mounted knight slaughtering men on foot; but the evidence produced is insufficient to support such an assumption. Of all Saints on the Calendar, perhaps St. George* is the last we should expect to find over the door of a Scottish Parish Church. In olden days Scotland could boast as her patron and protector the first called apostle, whereas the Cappadocian freebooter was Patron of England. Needless to add, the sculpture is probably too old to have been a St. George, forced upon the Church in the days of the English occupation, or wars of succession.

The same objections would not apply to St. Michael, Patron of Normandy. All over Europe there are numerous examples of the dedication of churches, on mounds, to the Archangel, ever since about 500 A.D., when Monte Gargano,† the spur on the Italian boot, witnessed the erection of a splendid sanctuary in his honour. Mont-Saint-Michel, in Normandy, built on the same model, and Saint Michael's Mount, in Cornwall, furnish other illustrations. To come nearer home, the village church of Felton,‡ in Northumberland, stands on an "eminence dedicated to Saint Michael." Tradition says that this stone stood originally over the door of the church; if so, the fact is instructive, when one recollects that a tympanum, without a porch, is an architectural detail of the Norman period. On the western front of the Cathedral at Bâle there is also an ancient group, much like that on the Somerville stone.

It must further be noted, however, that the crest§ of the Avenels, perhaps the earliest lords of the soil, who had lands in this neighbourhood in the 12th century, represents a knight mounted, and encountering a dragon. Here possibly is another clue to the solution of the mystery.

* It has been estimated that there are in England 162 churches dedicated in honour of St. George, but in Scotland that dedication is almost unknown.—Vid. Parker's Calendar of the Anglican Church, p. 65.

† Crawford's Rulers of the South, II., 125.

‡ Wallis' Ant. of Northumberland, II., 357.

§ Book of Ancient Scottish Seals (Maitland Club), Plate V., No. 4.

One thing alone seems certain, that the Somerville stone has faced wind and weather here, for more than seven centuries. The rudeness of the sculptured figures, the horseman, the dove, and the dragon on the ground, all bespeak for it an early date; though not so early, perhaps, as that often assigned. Some, carrying us back beyond even the first plantation of our Holy Faith, have connected this mound with the pre-historic serpent-worship, and its high places, and it is still an open question whether the legend begat the sculpture, or the sculpture the legend. Thus the problem stands, unsolved, perhaps insoluble.

M E M O I R.

*Colonel David Milne Home of Wedderburn, late
Organizing Secretary of the Club.*

By COMMANDER F. M. NORMAN, R.N.

It is surely a sorrowful and striking circumstance in our annals, that within the short space of three years we should have to record the loss of three successive Secretaries, each honoured and lamented, and each distinguished in his time and way for having rendered essential services to the Club.

The notable Borderer, however, who is the subject of the present Memoir, occupied a more extensive sphere in life than his predecessors in the office; and there can be nothing disparaging to their memory in the remark that his loss was more widely felt; while the circumstances of his end were at once more tragic and impressive.

He was one of my own oldest and most valued friends, and I cannot but be sensible of a feeling of sadness to find that it has fallen to my lot to write obituary notices of two such friends in the same volume.

David Milne Home was the only son and fourth child of Mr David Milne Home of Milne Graden, near Coldstream, and Jean his wife; grandson of Admiral Sir David Milne, G.C.B.; and nephew of Admiral of the Fleet Sir Alexander Milne, Bart., G.C.B.

He was born at 10 York Place, Edinburgh, on September 25th 1838, and, as the following genealogical outline will show, was the representative of the ancient and distinguished family of the Homes of Wedderburn, and Heir of entail of the estates of Wedderburn, Billie, and Paxton.

* * * * *

In 1450 there was a Sir David Home of Wedderburn, whose great-grandson, Sir David, fell at Flodden in 1513. In Vol. xvi. of our Transactions appeared an interesting account by the Colonel himself of the banner carried at

Flodden by the Homes of Wedderburn, which, or all that remains thereof, was exhibited to this Club in 1898, and now hangs, carefully framed, at Wedderburn.

The last named Sir David had seven sons, who are immortalized in Canto V. of *The Lay of the Last Minstrel* as the "Seven Spears of Wedderburne":—

"Vails not to tell what steeds did spurn
Where the Seven Spears of Wedderburne
Their men in battle order set."

The eldest died with his father in the "Scottish circle deep that formed around their King."

The second "spear," David, then became head of the family, and his descendant, through several male gradations, was Sir David, who was killed at Dunbar in 1650, with his eldest son, leaving his second son George, who died before 1715, to represent him. George's eldest son, George, in due time succeeded to the property, and had six sons and three daughters. This George Home constitutes at once an important landmark and *hiatus* in the chronicles and fortunes of Wedderburn.

Having espoused the Stuart cause in 1715, he was attainted and his estates forfeited to the Crown.

Now appears on the scene a Ninian Home of Billie, whose individuality and action were destined to influence the fortune of the family very materially; and it must be noted that a complicated pedigree is rendered still more so by the fact that, although accidentally of the same name, Ninian was no blood relation of the Homes of Wedderburn.

What he was, however, does not much matter: what he did is of more direct consequence. First, having satisfactorily proved to the Court of Session that he was a creditor of the attainted laird in such a way and to such an extent as to constitute him *de jure* the owner of that laird's property, the Court decided that the said property was exempt from the Crown's Right to Forfeited Estates, and made it over to him. He then generously "re-infeft" David, the eldest son of the attainted laird; that is, restored the estate to him, and called to the succession the whole of David's brothers and sisters, "Geordie" only excepted.

Secondly: in 1726 he married Margaret, the eldest daughter of the attainted laird—that is, the eldest of those sisters. Wedderburn was next occupied by the aforesaid David, who died in 1764, and by Patrick, the third son, who died in 1766, both without issue. The estates then passed to Patrick, Ninian's eldest son by the above named Margaret, who, on his father's death, had become the owner, also, of Billie. He died unmarried in 1808, and was succeeded by his brother David, a general, who died in 1809. General David's sister, Miss Jean Home, the last of Ninian's children, became next owner, and she died at Paxton in 1812. Paxton House was built in the latter part of the 18th century by Ninian Home jr., Ninian's grandson, and passed into the hands of his brother, George Home, *W.S.* The picture gallery, which is so well known a feature at Paxton, was formed by Patrick, who was an M.P. for Berwickshire.

After Miss Jean's death the united properties of Wedderburn, Billie, and Paxton passed under entail to her nephew and cousin, George Home, second son of Isobel, second daughter of the attainted laird by her husband, Alexander Home of Jardinefield, eldest son of Ninian of Billie by a former marriage. A letter from Sir Walter Scott to George, who was a gentleman of information, taste, and literary attainments, may be seen in our Vol. xvi., p. 291.

The latter died without issue. The next successor under entail was James, son of the Rev. John Tod of Ladykirk, by Jean his wife, third daughter of the attainted laird. He took the name of Home on his succession. James Tod Home died unmarried in 1820, but he had a sister (daughter of the third daughter of the attainted laird) who had married a Mr John Forman, and their son, as John Forman Home, succeeded to the estates under entail.

Dying without issue, he in turn was succeeded by his younger brother, William Forman Home (married Jean, daughter of the Rev. Geo. Home, minister of Ayton), who died in 1847, leaving four daughters, the eldest of whom, Jean, having inherited under entail, married in 1832, as stated at the outset, Mr David Milne, when the estates were resettled by private Act of Parliament (Mr Milne at the same time assuming the name of Home), by which her son David became the heir

to the combined three estates, to which he succeeded on his mother's death in 1876, subject however to heavy family charges. To sum up:—Colonel David Milne Home was the nearest lawful heir of line and "tailzie" to David, eldest son of the attainted laird, who was re-infeft in the Wedderburn Estates by Ninian Home of Billie, in 1725.

It is evident from the foregoing that the Colonel's mother was the great-grand-daughter of the third daughter of the attainted laird.

We may now emerge from the mazes of a curious and somewhat difficult pedigree, and find the subject of our memoir a delicate child, unable to walk till he was four, and always in his earlier days rather weakly and subject to illnesses,—subsequently, in fact, nearly dying of fever at Trinity College, Cambridge, where he took his B.A. degree, in 1861, having previously been educated at Merchiston School, near Edinburgh, and afterwards at Cheltenham. After completing his Cambridge course he studied law for two sessions in Edinburgh University, and during that time joined the Berwickshire and East Lothian Artillery Militia, and trained at Dunbar for two or three seasons—thus having enjoyed the advantages of a combined English and Scottish education.

Having made an extensive tour through Canada and the United States, he selected the army as his profession, and joined the Royal Horse Guards, "The Blues," as Cornet on May 6th 1862, became Lieutenant 29th of September 1865, and Captain 2nd December 1868. Meantime, that is in 1867, he had married Jane, third daughter of Sir Thomas Buchan-Hepburn, Bart., of Smeaton-Hepburn, Prestonkirk, Haddingtonshire. (She died in 1881, leaving four sons and four daughters, the eldest of whom, David, born 30th April 1873, on the Colonel's death in 1901, inherited his father's combined estates under entail.)

The young officer was admitted, on 25th November 1869, to the Freedom of the Borough of Berwick-upon-Tweed, a privilege to which he was entitled by heredity—his father, "David Milne, gentleman, apprentice to Thomas Jordan Steel," having been admitted to the Freedom, on 5th January 1829.

Soon a door was opened, of which Captain Milne Home availed himself to step into the political arena. A man of his high character and standing, antecedents, and local connection being "on the spot," it was natural, indeed inevitable, that local politicians should be anxious to secure his services.

Accordingly at the general election of 1874, he came forward in the Conservative interest, and was elected as M.P. for Berwick-upon-Tweed, jointly with Sir Dudley Coutts Marjoribanks, Bart., a Liberal, who afterwards became first Baron Tweedmouth.

Remaining in Parliament till the general election of 1880, he failed to obtain a renewal of confidence from his notoriously fickle constituency; whose suffrages, however, nothing daunted, he again wooed in the same year, a vacancy in the representation occurring through the elevation of the Hon. Henry Strutt to the peerage, in succession to his father, Lord Belper. This time he did win the seat, but by the "skin of his teeth," being returned, by two votes only, over Mr John MacLaren, Lord Advocate for Scotland during Mr Gladstone's administration. An election petition followed, which was heard at Berwick before Judges Hawkins and Lopez, for whose accommodation the present writer vacated his house, suitable "judges' lodgings" not being procurable elsewhere. Leading Counsel were for Milne Home, John Charles Day; for MacLaren, Alfred Wills, both of whom, afterwards, became eminent judges. The result of the petition was not altogether in accordance with the expectations of its promoters, the majority for Milne Home, instead of disappearing, being slightly increased.

The political connection of the re-seated member with the ancient Border Borough continued till 1885, when, after having sent representatives of its own to Parliament since 1482 (and to the Scottish Parliament previously) it was ingloriously merged into a political division of the county of Northumberland.

During his Parliamentary connection with Berwick, David Milne Home, who was regarded as a model representative, having earned the respect and esteem of all parties alike, succeeded on July 1st 1881, to the command of his regiment,

On December 26th of the same year a great sorrow befel him in the death of his wife. Subsequently, on July 2nd 1889, he married at the British Legation, Berne, Mary Pamela, eldest daughter of Major Charles D. C. Ellis, late 60th Rifles, who survives him, and by whom he had one son, Charles Alexander.

Shortly after the death of his first wife, Lieut.-Colonel Milne Home, on the breaking out of the Egyptian War in 1882, was ordered out with his regiment to take part in it, Her Majesty Queen Victoria signalling "God-speed" to the Commanding Officer on embarkation.

Hard work and active service awaited them. Letters from the Colonel graphically described the charge in the dark at Kassassin, in which he was wounded in a finger. Shortly afterwards he became very ill, but rest and care on board ship, and a voyage to Cyprus and back restored him, and, having rejoined his regiment, he re-embarked for home on October 4th 1882. On October 23rd he arrived at Berwick Railway Station on a visit to the north, when the bells in the Town Hall were rung, and the Mayor, Alderman Adam Darling, at the head of a large following of leading townsmen, attended to do honour to the gallant officer.

We next find the Colonel among those who were decorated by the Queen, at Windsor, on November 24th 1882, for service in Egypt.

On December 18th 1882, a handsome illuminated congratulatory address from the Town Council of Berwick was presented to him by the Mayor at a special meeting; and, on the 9th of January 1883, a presentation by the inhabitants of Berwick-upon-Tweed, in the form of a magnificent silver salver, suitably ornamented and inscribed, was made at a largely attended gathering, held in the Queen's Rooms.

On April 6th 1885, the Lieut.-Colonel attained the rank of full Colonel, when the requirements of military service necessitated the relinquishment of his command of the regiment; but afterwards, in 1890, he was appointed to the command of the Exeter Regimental District, where, during five years, he won golden opinions from all classes, and, on May 27th 1895, was the recipient of the Freedom of that ancient city, the gratifying incident marking the close of his military

career. Again travelling northwards, he took up his residence at Caldra, near Duns, and at once resumed that active interest in public affairs which he manifested till the day, till the very minute, of his death, which took place with appalling suddenness, at Eyemouth, on Tuesday, November 14th 1901, from the failure of the heart's action while hurrying to catch a train, after having attended a meeting of the Harbour Trust and Sea Wall Committee, of which he was chairman.

Swiftly, silently, unexpectedly, did the Angel of Death tap him on the shoulder, and beckon him away to those regions which are visible only to the eye of faith. As far as man can judge, he lived habitually in readiness for the call, but it may with confidence be stated that rarely has there been a man whose loss to the community was so deeply felt. A gallant soldier, a model husband and father, a devoted friend, a Christian of high principle and upright life—he pursued his consistent career of usefulness universally beloved, esteemed, and respected.

He was an Elder in the Established Church of Scotland, and frequently sat in the General Assembly as representative Elder of his Presbytery, and though he never talked much about religion, those who knew him best were aware that it was the pivot of his life.

Unselfishness was the prominent feature of his character, his leading idea being—how best to do things for other people. The last days of his life were literally spent in ministering to the wants of others, working for soldiers in Edinburgh, and for fisher-folk at Eyemouth. A favourite maxim of his was, “never put off till to-morrow what you can do to-day for others: the opportunity may pass away.” On the very day which was to be his last he noticed a maid, who had formerly been dismissed from his service, and walked the whole length of the train to speak kindly and encouragingly to her.

It has been observed that since his departure people who met him in former days seem to have been impressed by him, and not to have forgotten him.

To enumerate the various public offices which Colonel Milne Home filled would be beyond the scope of this notice, but

they were very numerous and of diversified character. His encouraging presence is particularly missed as President of the Berwick Auxiliary of the British and Foreign Bible Society, and as President of the Berwick Museum, in both of which institutions he always manifested the most lively interest. Eyemouth mourned his loss as her best friend; as did numbers of persons of all classes, on whose behalf, often unknown except to themselves, he exerted his interest. I can only record, in conclusion, the details of his connection with our Club.

He was elected a member on September 25th 1873, held the Presidency for the year 1898, and during his year of office contributed the interesting paper on the Flodden Banner, to which allusion has already been made. Another contribution was (Vol. xvi.) *Some Notes on the Instinct of Swans*, but with exception of those, and his Address and Reports of Meetings, I can find nothing else from his pen.

On the lamented death of the Rev. George Gunn, in January 1900, the Club found itself without a Secretary, and the prospect of being able to obtain one seemed anything but hopeful.

Under these circumstances a special meeting of the Club was held at Berwick, on May 3rd 1900, to consider the situation, when Colonel Milne Home, with his usual consideration (although already full of business of many sorts), rescued the Club from its difficulties by kindly consenting to undertake the duties of Organizing Secretary; Mr G. G. Butler of Ewart Park, at the same time undertaking the Editing Secretaryship.

It will be fresh in the memory of all of us how conscientiously, courteously, and efficiently the new Organizing Secretary performed his duties. We miss him alike as a friend, a member, and an official; and, in closing this memoir, I confess my inability to do full justice to so noble and unselfish a character. His mortal remains repose in the churchyard of Hutton, Berwickshire, where, amid the regrets and respect of a large concourse of mourners of all classes, from all parts, they were laid to rest, on Saturday, November 23rd 1901. *Requiescat in pace.*

OBITUARY NOTICE.

Charles Stuart, M.D.

By COMMANDER F. M. NORMAN, R.N.

DEEP and widespread regret was felt throughout the Border district, and in many places beyond its limits, when the death of this much-esteemed medical practitioner, our old and distinguished member, took place at his residence—Hillside, Chirnside, Berwickshire—on 12th February 1902, in the seventy-sixth year of his age. His demise deprived me of an intimate and deeply valued friend of a quarter of a century's duration, and the botanical and horticultural world of one of its chief ornaments and most devoted adherents. Dr Stuart was "a man—every inch of him," and his cheery welcome, genial presence, manly character, warm, kindly heart, and enthusiasm for Flora could not fail to impress all who had the privilege of his acquaintance. Certainly, his departure has created a void in the circle of my own friendships which can never be replaced. He lived a highly useful, blameless, affectionate, Christian life, which, to the great advantage of his family and friends, was prolonged for some years beyond the proverbial "three-score and ten."

Until eighteen months or so before his death he had always enjoyed good health, and his robust frame and excellent constitution showed no signs of breaking till he contracted the ailment which ultimately, after much suffering, laid him low.

Amid many tokens of respect and affection from a large concourse of mourners, he was laid to rest in the churchyard of the old Parish Church at Chirnside, within sight of the little garden which had been his chief delight for so many years—the garden whence had emanated the numerous productions which had so delighted his friends, enriched the horticultural world, and procured him such distinction in horticultural circles.

Dr Stuart, it is well known, was a representative of a collateral branch of the ancient Earldom of Moray, being a direct lineal descendant of the third son of the fourth Earl. His father, John Alexander Stuart, died in 1869; and his son Charles, the subject of this memoir, was born at Woodhall, near Edinburgh, on 30th March 1825; married, in 1851, Georgina, daughter of the late Rev. John Edgar, minister of Hutton, Berwickshire; and is survived by his widow and a large family of sons and daughters to mourn his loss.

He was educated at the Edinburgh Institution, and at the University of Edinburgh, where he took his degree as Doctor of Medicine in 1846, and was also a Licentiate of the Royal College of Surgeons in Edinburgh. Two years after qualifying professionally, he settled at Chirnside, where he practised for fifty years—not until quite the close of the century having sought the services of a coadjutor and successor. His talents, skill, and energy secured for him a large and successful *clientèle*.

From an early date he was appointed Medical Officer for Chirnside and adjacent parishes, and did excellent service in that capacity. The poor found in him a true friend, for he was always solicitous in securing their interests and comforts. He was an Extraordinary Member of the Royal Medical Society in Edinburgh.

The Free (now West United Free) Church of Chirnside were proud to number him among them, and he took a

warm interest in the life and work of his church. His political views were broad-minded Liberal.

From early years Dr Stuart was an enthusiastic student of nature—especially of plants and trees, birds, and the phenomena of the seasons. He was an observing man, and, as he drove about the country on professional routes, nothing escaped his eye, and he always had something instructive and interesting to write or say about his observations.

He was elected a member of our Club on August 16th 1854, was President 1873, was a frequent attender at our meetings, and a copious and valued contributor to our Transactions. Having become a Fellow of the Botanical Society of Edinburgh, he was elected a member of its daughter Society—the Scottish Alpine Botanical Club, in 1874, of which he was an enthusiastic adherent, and a *persona grata*. In fact, he was too enthusiastic, for there is but too good reason to fear that the incipient ailment from which he suffered was aggravated beyond recovery by his injudiciously insisting upon travelling to take part in one of its meetings.

With that Club he discovered and secured two prizes, viz. a beautiful rose-pink variety of *Veronica saxatilis* on the Breadalbane Hills, near Killin; and in Connemara, in 1890, a new form of heath, named *Erica Tetralix Mackiana Stuartii*.

Dr Stuart's achievements and successes in horticulture were numerous and important, and secured for him many well-deserved honours from Horticultural Societies, among them being the dedication to him of one of the volumes of "The Garden," the leading paper "of that ilk" in England.

Evidently he devoted his attention to the Pansy very early (his favourite flower), for as long ago as 1854 he was a successful competitor at The Scottish Pansy Society, and in 1859, with the same flower, gained several important prizes at their show. In 1874 he began to turn special attention to hybridising, which was his specialty, wherein, in certain directions, he may be said to have been *facile princeps*.

He began his experiments by crossing the Pansy with the old *Viola cornuta* of gardens, and produced many beautiful hybrids, which had the merit of being true perennials and continuous bloomers, six of them having obtained a First-class Certificate from Chiswick, in 1876.

He raised many beautiful *Violas*—especially, in 1894, a light yellow, rayless one—which were greatly admired. In May 1880, by crossing *Aquilegia Witmanni* with *A. glandulosa*, he obtained the beautiful Columbine which perpetuates his name—*Aquilegia Stuartii*.

He was also successful in *Primulas* and *Polyanthuses*, particularly in gold-laced varieties of the latter; in raising an excellent self-stage red *Auricula*; and—to the envy, perhaps, of many amateurs and professionals—of cultivating with conspicuous success numerous rare (and difficult to rear) *Alpine Ferns* and other *Alpines*.

Latterly he turned his attention to the improvement of *Trollius* (globe-flower), and crossed the American with the European species with good effect; and he raised some beautiful varieties of the Daffodil, and was the fortunate discoverer of a unique strain of that favourite flower, growing wild, or naturalised from ancient times, which is known as The Whitehall Daffodil.

It was a real treat to a kindred spirit to ramble round Dr Stuart's well-stocked garden with its owner, where, in expatiating upon his favourites, he would "talk down hours to minutes." It was ever a marvel to me how, in so small an area, such a vast collection of plants and flowers were always flourishing, and still there was a space for experimental stations!

The lamented doctor was a man of much literary taste, and, in addition to his numerous contributions to the Berwickshire Club, and to certain Journals, wrote a pamphlet on the Yetholm gipsies.

Our Club is distinctly the poorer by the decease of Dr Charles Stuart, for, if not exactly a nobleman (though he was not far from being one), he was emphatically a noble Man, whose name was an adornment, not only to our roll, but to the longer, more ancient, and more comprehensive one of the Sons of Caledonia.

List of Contributions to the Transactions of the Berwickshire Naturalists' Club. By CHARLES STUART, M.D.

VOL. III.—Account of a Font from Coldingham Priory.

VOL. IV.—On Chirnside. On Hutton Hall.

VOL. V.—On *Picus major*. Bird Notes.

VOL. VI.—Botanical Notes on Central Berwickshire. *Orchis pyramidalis*. British Cists. Will o' the Wisp. Plants of 1872. Excursions.

VOL. VII.—President's Address. Botanical Notes of Central Berwickshire. Hail Shower.

VOL. VIII.—Cultivation of *Linnaea* and *Goodyera*.

VOL. IX.—Gordon Plants.

VOL. X.—Fungi of Pistol Plantations. Obituary Notice of Mr John Sadler. Storm of 1881. Whitehall Trees. Bird Migration.

VOL. XI.—Account of Club Meeting at Craggside. Frost and Trees. Shippath Dene in Lammermoor. Bird Migration. Bird Notes and Weather. Ferrule of Shaft of Spear of Bronze Age. Various Notes. Summer Ramble in Woods around Chirnside.

VOL. XII.—Contrasts between Scottish and Scandinavian Flora. Whitehall Narcissus.

VOL. XIII.—Spur found at Ferney Castle. Wild Conne-mara.

VOL. XV.—Bird and Plant Notes.

VOL. XVI.—Plants and Mosses of Dowlaw Dene.

VOL. XVII.—Notes from Field and Garden. Letter. Visit to Aikengall Dene. Changes of Wild and Cultivated Plants.

Record of Barometer at Milfield, Northumberland, in 1901.

Communicated by GEORGE GREY, Esq.

The following table gives for each week:—

- (1) The average height in inches of the fourteen barometer readings at noon and midnight, beginning Monday, noon; and ending Sunday, midnight.
- (2) The highest reading during the week.
- (3) The lowest.
- (4) The difference between these, giving the extreme range of atmospheric pressure during the week.

The date in the margin, as Jan. 13, indicates the week ending at midnight on Sunday, Jan. 13, and including that day.

Week ending.	(1) Aver- age.	(2) Max.	(3) Min.	(4) Ex- treme Range	Week ending.	(1) Aver- age.	(2) Max.	(3) Min.	(4) Ex- treme Range
Jan. 6	—	—	—	—	July 7	29.85	30.05	29.70	0.35
13	29.93	30.25	29.50	0.75	14	29.95	30.05	29.85	0.20
20	29.90	30.15	29.30	0.85	21	29.95	30.10	29.70	0.40
27	29.55	30.35	28.60	1.75	28	29.70	29.85	29.05	0.80
Feb. 3	—	—	—	—	Aug. 4	29.95	30.15	29.60	0.55
10	—	—	—	—	11	29.65	29.80	29.45	0.35
17	—	—	—	—	18	29.85	30.25	29.65	0.60
24	—	—	—	—	25	30.10	30.40	29.25	1.15
Mar. 3	29.10	29.95	28.55	1.40	Sep. 1	29.65	30.00	29.10	0.90
10	29.55	30.20	28.85	1.35	8	29.95	30.15	29.65	0.50
17	29.75	29.95	29.60	0.35	15	29.90	30.00	29.75	0.25
24	30.00	30.40	29.65	0.75	22	29.40	29.75	29.10	0.65
31	29.40	29.95	28.65	1.30	29	29.80	30.00	29.50	0.50
April 7	29.50	29.95	28.95	1.00	Oct. 6	29.65	30.05	28.95	1.10
14	29.35	29.80	28.90	0.90	13	29.75	30.10	29.00	1.10
21	29.70	30.00	29.00	1.00	20	29.40	29.70	28.90	0.80
28	29.90	30.20	29.60	0.60	27	29.80	30.05	29.65	0.40
May 5	30.05	30.35	29.60	0.75	Nov. 3	30.25	30.50	29.60	0.90
12	29.75	30.35	29.05	1.30	10	30.00	30.30	29.55	0.75
19	30.20	30.35	30.00	0.35	17	29.55	30.00	29.05	0.95
26	30.25	30.45	29.85	0.60	24	29.90	30.50	29.40	1.10
June 2	29.60	29.75	29.25	0.50	Dec. 1	—	—	—	—
9	29.90	30.25	29.65	0.60	8	—	—	—	—
16	29.65	29.90	29.25	0.65	15	—	—	—	—
23	29.80	30.00	29.35	0.65	22	29.30	29.60	28.75	0.85
30	30.10	30.20	29.90	0.30	29	28.90	29.45	28.45	1.00

It will be noted that the highest average barometer reading for a whole week, 30.25, belongs to the week ending Nov. 3; the lowest, 28.90, to Dec. 29; the highest single reading, 30.50, to the weeks ending Nov. 3 and Nov. 24 (the actual dates were noon Oct. 31, and evening Nov. 23); the lowest 28.45, to Dec. 29; and the greatest weekly range, 1.75, to Jan. 27.

The readings were all taken by means of a revolving cylinder, with self-recording apparatus.

Height of Milfield observatory above sea-level 200 feet; 7 miles south-east from Coldstream, 12 miles S.S.W. from Berwick-on-Tweed.

*Notes of Rainfall and Temperature at West Foulden
and Rawburn, 1901.*

By MR JAMES HEWAT CRAW.

	WEST FOULDEN.			RAWBURN.		
	RAINFALL.	TEMPERATURE.		RAINFALL.	TEMPERATURE.	
	Ins.	Max.	Min.	Ins.	Max.	Min.
January ...	1·69	54	25	2·50	48	21
February ...	1·83	45	21	1·90	40	22
March ...	1·78	59	18	2·00	54	17
April ...	1·17	74	29	2·10	70	28
May ...	2·72	71	35	2·30	70	32
June ...	0·91	75	39	2·20	71	32
July ...	2·12	86	38	1·40	80	46
August ...	2·57	80	42	4·50	75	42
September ...	1·8	71	42	1·90	68	40
October ...	1·45	67	28	2·10	66	32
November ...	0·78	55	19	3·40	55	23
December ...	1·23	52	21	5·30	50	23
TOTAL	19·33	86°	18°	31·60	80°	17°

West Foulden is 6 miles from sea; 250 feet above sea-level.

Rawburn is 24 miles from sea; 920 feet above sea-level.

*Meteorological Record for 1901, at Lilburn Tower,
Northumberland.*

Communicated by MR EDWARD J. COLLINGWOOD.

			Mean Temperature.	Mean Height of Barometer.	Rainfall. Inches.
January	...	...	37·06	29·56	1·55
February	...	...	35·10	29·65	3·16
March	...	...	38·91	29·43	2·26
April	...	...	45·88	29·49	1·51
May	...	...	51·03	29·77	3·29
June	...	...	56·35	29·65	1·05
July	...	...	60·88	29·73	2·50
August	...	...	58·75	29·67	2·28
September	...	...	55·55	29·58	0·82
October	...	...	46·58	29·56	1·69
November	...	...	40·65	29·73	4·48
December	...	...	36·68	29·18	3·69

Mean Temperature	...	46·951 degrees.
Mean height of Barometer		29·583 inches.
Amount of Rain	...	28·28 inches.

*Donations to the Club from Scientific Societies, Exchanges,
etc., up to October 1902.*

Australian Museum, Records of the, Vol. III., No. 8; Vol. IV., Nos. 1, 3, 4, 6, 7; Vol. V., No. 1; and Report of the Trustees for 1900; do. for 1901.

Bath Natural History and Antiquarian Field Club, Proceedings, Vol. x., No. 1.

Belfast Naturalists' Field Club, Annual Report and Proceedings, Series II., Vol. IV., Part 7, 1899—1901.

Boston, U.S.A. Boston Society of Natural History, Proceedings, Vol. XXIX., Nos. 15—18., pp. 323—437, with Plates and Title-page to Vol. XXIX.; Vol. XXX., Nos. 1, 2, pp. 1—374; Occasional Papers, No. 6, Index to North American Orthoptera, Scudder.

Botanical Society of Edinburgh, Transactions, Vol. XXI., Part 4.

British Association for the Advancement of Science, Report of year 1902.

Cardiff Naturalists' Society, Report and Transactions, Vol. XXXIII.

Cleveland Naturalists' Field Club, Record of Proceedings, 1896, 1897, 1898.

Cornwall, Royal Institution of, Journal, Vol. XV., Part 1, 1902.

Dublin. Royal Dublin Society, *Scientific Transactions*, Vol. VII., Parts 8—13; *Scientific Proceedings*, Vol. IX., Parts 3, 4.

Geological Survey of the United Kingdom, *Summary of Progress for 1901*.

Hull Scientific and Field Naturalists' Club, *Transactions*, Vol. I., No. 4.

Liverpool Literary and Philosophical Society, *Proceedings*, No. LV. (90th Session, 1900—1901.)

Lloyd Library of Botany, Pharmacy, and *Materia Medica*—
Pharmacy Series, No. 1 *Bulletin*, No. 4, 1902.
Reproduction Series, „ 1 „ „ 1, 1900.
 Do. „ 2 „ „ 2, 1901.
Mycological Series „ 1 „ „ 3, 1902.
 Do. „ 2 „ „ 5, 1902.

Manchester Literary and Philosophical Society—
Memoirs and Proceedings, Vol. XLV., Part 4, 1900—1901.
 Do. do. Vol. XLVI., Parts 2, 5, 6, 1901—1902.

Manchester Microscopical Society, *Transactions and Annual Report*, 1900—1902.

Newcastle-upon-Tyne, Society of Antiquaries—
Archæologia Æliana, Part 57, Vol. XXIII., Part 2.
 Do. „ 58, „ XXIV., „ 1.
Proceedings, Vol. X., pp. 109—152, 165—180, 189—260.

Northants Natural History Society and Field Club, *Journal*, Vol. XI., Nos. 85 to 92.

Nova Scotian Institute of Science, *Proceedings and Transactions*, Vol. IX., Part 3.

Oberhessischen Gesellschaft für Natur-und-Heilkunde, Dreiunddreissigster Bericht der, 1899—1902.

St. Louis, U.S.A. Transactions of the Academy of Sciences of St. Louis, Vol. x., Nos. 9—11, with Title-page, Prefatory matter, and Index, January 1st to December 31st 1900, Vol. xi., Nos. 1—5.

Scotland, Society of Antiquaries, Third Series, Vol. xii.

U.S. Department of Agriculture, Biological Survey, Bulletin No. 12, Legislation for the Protection of Birds; No. 13, Food of the Bobolink, Blackbirds, and Grackles; No. 14, Laws regulating the transportation and sale of Game: also North American Fauna, Nos. 16, 17, 18, 19, 20, and 21.

U.S.A. Geological Survey.

Bulletins, 177—190.

„ 192—194.

Annual Reports, 21st, Parts 1, 2, 3, 4, 5 (with maps), 6, 6 (continuation), and 7.

Geology and Mineral Resources of Copper River District, Alaska. Schrader and Spencer.

Reconnaissances in the Cape Nome and Norton Bay Regions, Alaska, 1900.

Mineral Resources of the United States, 1900.

Yorkshire Naturalists' Union, Parts 28 and 29 of the Transactions.

General Statement of Account, 1901.

INCOME.

	£	s.	D.	£	s.	D.
Arrears received during the year	34	4	0			
Entrance Fees	6	10	0			
Subscriptions	160	0	6			
Back Numbers of Proceedings Sold, etc.	3	17	10			
				£204	12	4

EXPENDITURE.

Balance from last year, due to						
Treasurer	6	6	11			
Paid on Account of Printing Proceedings	51	0	0			
Postages, Carriages, etc. ..	7	3	1			
Account for Salmon	9	13	10			
Expenses of Meetings ..	2	16	11			
Berwick Museum, Rent of Room, etc.	3	10	0			
Paid for Indexing of Books, etc.	6	1	6			
Balance at Bank and in hands of						
Treasurer	118	0	1			
				£204	12	4

Audited and found correct,

W. MADDAN.

17th October 1901.

*Summarised Catalogue of Books in the Library, 31st
March 1902.*

- 1 AMERICAN MUSEUM OF NATURAL HISTORY, 1st Annual Report, January 1870.
- 2 ANDERSONIAN NATURALISTS' SOCIETY, Annals of. Vol. II., Parts 1 and 2.
- 3 ANTHROPOLOGICAL INSTITUTE of Great Britain and Ireland, Journal of. Vol. v., Parts 1, 3, 4; vol. vi., parts 1, 2, 4; vol. vii.; vol. viii., part 4; vols. ix.—xix.; vol. xx., parts 2, 3, 4; vol. xxi., parts 1, 2, 3; vol. xxii., parts 3, 4; vol. xxiii., parts 2, 3, 4; vols. xxiv.—xxvii. and xxix. List of the Fellows, May 1897.
- 4 ARCHÆOLOGIA ÆLIANA (from Newcastle-on-Tyne Society of Antiquaries.) [cp. No. 51, p. 192.] Vol. xiv., Part 38 only; vol. xv., parts 39 and 41 only; vols. xvi. and xvii., parts 42—46; vols. xix.—xxii., parts 51—55.
- 5 ANTIQUARIES OF SCOTLAND, Society of. Proceedings. Vols. xiii.—xxxii., 1878-79 to 1897-98.
- 6 ARKANSAS, Geological Reconnaissance of the Northern Counties, 1857 and 1858. 1st Report,

7 AUSTRALIAN MUSEUM.

a—Report of Trustees.

Years 1893—1898.

b—Records.

Vol. I., Nos. 1, 2, 3, 6, 7, 8, 9, 10; 1890-91,
Contents and Index to Vol. I.

Vol. II., Nos. 1, 2, 3, 4, 5, 7; 1892-93, Contents
and Index to Vol. II.

Vol. III., Nos. 1—5; 1897-99.

c—Catalogue of Australian Birds in the Museum.

Parts 2, 3, 4. Supplement to the Catalogue.

8 BATH NATURAL HISTORY AND ANTIQUARIAN

FIELD CLUB. Proceedings. Vols. III., VI., VII., VIII.

Vol. II., Nos. 3 and 4 only; vol. IV., nos. 1, 2, and 3
only; vol. V., nos. 1, 2, and 4 only; vol. IX., nos. 2
and 3 (1900.) Address to the members in reference
to the death of C. E. Broome, Esq., F.L.S., by the
Rev. L. Blomefield, M.A., 8th December 1886.

9 BELFAST NATURALISTS' FIELD CLUB. Annual
Report and Proceedings. Tenth Annual Report,
1872-73.

Series II. } Vols. I.—III. 1873-4 to 1891-2.
 } Vol. IV., Parts 3, 5, 6. 1895-6 to 1898-9.

10 BODLEIAN LIBRARY—Donations to the Bodleian,
during the years 1873, 1874, and 1876.11 BRITISH ASSOCIATION FOR THE ADVANCEMENT
OF SCIENCE. Reports. Years 1894—1897.

Preliminary Programme, Toronto Meeting, 1897.

Report of Corresponding Societies' Committee, Toronto
Meeting, 1897.

12 BOSTON SOCIETY OF NATURAL HISTORY.

a—*Boston Journal of Natural History.*

Vols. IV.—VII. 1843—1863.

b—*Constitution and Bye-laws of the Society,*
with a List of the Members, 1855.

c—*Annual Report of the Custodian.*

Years 1864-5 to 1868-9.

d—*Proceedings.*

Vols. III.—XXIX. 1848—1900.

e—*Memoirs.*

Vols. II.—V. (but Vols. II. and IV. incomplete.)

f—*Occasional Papers.*

13 CARDIFF NATURALISTS' SOCIETY. Report and Transactions.

a—Vol. VII., 1875; vols. IX.—XXIX., 1877—1896-7;
vol. XXXI., 1898-9.

b—"The Flora of Cardiff, a descriptive list of the
Indigenous Plants found in the district of the
the Cardiff Naturalists' Society," by John Storrie.

14 CHICAGO ACADEMY OF SCIENCES. Proceedings.
Vol. I., 1865.

15 CONCHOLOGY, JOURNAL OF. Reprints from.

1—Remarks on the Geographical Distribution of the
Terrestrial Mollusca, C. P. Gloyne, 1877.

2—Life History of British Helices. No. 1, *Helix*
Arbustorum, Jno. Taylor, 1882.

16 CORNWALL, ROYAL INSTITUTION OF. Journal.
Vols. IX, XI, XII, XIII.; vol. X., Part 1 only.

17 CROYDON MICROSCOPICAL AND NATURAL HISTORY CLUB.

a—Report and Abstract of Proceedings.

1st Report, etc., 18th Jany. 1871.

3rd—8th do. 1st Jany. 1873—16th Jany. 1878.

b—Proceedings and Transactions.

From 20th Feb. 1878 to 19th Jany. 1881.

15th Annual Meeting, Feb. 13th 1884—Jany. 13th 1886.

17th—30th do. Jany. 12th 1887—Jany. 16th 1900.

c—"The Meteorology of Croydon," Geo. Corden, 1878.

18 CUMBERLAND AND WESTMORELAND ASSOCIATION FOR THE ADVANCEMENT OF LITERATURE AND SCIENCE. Transactions. Nos. v.—xv. 1879-80—1889-90.

19 DUBLIN, ROYAL DUBLIN SOCIETY.

a—Scientific Transactions. (Series II.)

Vol. I., Parts 1—14, 20—21, 23—25. 1877-83.

Vols. III.—VII. 1883—1900.

b—Scientific Proceedings. (New Series.)

Vols. I., II. 1877—1880.

Vol. III., Parts 1—4, 6—7. 1881—1883.

Vols. IV.—IX. 1883—1900.

c—Economic Transactions.

Vol. I. Parts 1 and 2. Nov. 1899.

d—Indexes.

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- 20 DUMFRIESSHIRE AND GALLOWAY NATURAL HISTORY AND ANTIQUARIAN SOCIETY. Transactions and Journal of Proceedings. Session 1867-8. Sessions 3-12. 1880-1896.
- 21 EAST OF SCOTLAND UNION OF NATURALISTS' SOCIETIES. Proceedings. Montrose Meeting, 1890. Meetings, 1891-95. (One Vol.)
- 22 EDINBURGH BOTANICAL SOCIETY. Proceedings and Transactions.
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- 24 EDINBURGH ROYAL SOCIETY. Proceedings.
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- 25 ESSEX INSTITUTE.
a--Proceedings.
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b--Bulletin.
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b—Inaugural Address, 28th February 1880.

c—Transactions. Old Series, Vols. I—IV., 1880-86.
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d—Appendix. 5th Annual Report of the Council, 1884.

e—Report of the Council and Balance Sheet for 1883, with List of Members, etc.

27 FISHERY BOARD FOR SCOTLAND. Annual Report.
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28 GEOLOGISTS' ASSOCIATION. Proceedings. Vol. II.,
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- 29 GEOLOGICAL SOCIETY. Reprints from the Quarterly Journal.
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- 31 GLASGOW GEOLOGICAL SOCIETY. Transactions. Vol. III. (supplement); vol. IV., parts 2 and 3; vols. V.—X., 1874—1896.
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- 34 GLASGOW SOCIETY OF FIELD NATURALISTS. Transactions. Parts II.—V., Sessions 1873—1878.
- 35 HARVARD COLLEGE MUSEUM OF COMPARATIVE ZOOLOGY. Annual Report of the Trustees and Curator. Years 1862—1866, 1868, 1870, 1871, 1874—1876, 1878-79—1880-81—1883-84—1885-86, 1887-88—1891-92, 1894-95, 1895-96.
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- 36 HAWICK ARCHÆOLOGICAL SOCIETY. Meetings.
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- 37 HULL SCIENTIFIC AND FIELD NATURALISTS' CLUB. Transactions. Vol. I., No. 1, 1898.
- 38 INDIANA GEOLOGICAL SURVEY OF. First Annual Report, 1869, with Map and Coloured Section.
- 39 INDIAN METEROLOGICAL MEMOIRS. Vol. VII., Parts 1—7, 1853—1864. Table of Contents to Vol. VII. Vol. VIII., Parts 1 and 2, 1856—1865.
- 40 IOWA, GEOLOGY OF. Vol. I., Parts 1 and 2, 1855-6-7.
- 41 LEEDS PHILOSOPHICAL AND LITERARY SOCIETY. Annual Report. 1870-71, 51st Session; 1872-73 to 1873-74, 53rd and 54th Sessions; 1875-76 to 1877-78, 56th—58th Sessions; 1879-80 to 1885-86, 60th—66th Sessions; 1887-88 to 1892-93, 68th—73rd Sessions; 1894-95 to 1897-98, 75th—78th Sessions.
- 42 LEEDS NATURALISTS' CLUB AND SCIENTIFIC ASSOCIATION. Seventh Annual Report, and President's Valedictory Address, etc., 1876-7.
- 43 LIVERPOOL LITERARY AND PHILOSOPHICAL SOCIETY. Proceedings.
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Complete List of the Members and Officers, Bibliographical List of the Society's M.S.O. Volumes, and Volumes of Memoirs, etc., published by the Society from February 28th 1781, to April 28th 1896.

45 MANCHESTER MICROSCOPICAL SOCIETY. Transactions and Annual Report.

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46 MERIDEN SCIENTIFIC ASSOCIATION. Transactions. Vol. v., year 1893.

47 MILWAUKEE PUBLIC MUSEUM. Annual Report of Board of Trustees. 13th, 1894-5. 16th, 1898.

48 MONTGOMERYSHIRE, COLLECTIONS HISTORICAL AND ARCHÆOLOGICAL. (From the Powysland Club.)

Vols. viii.—xxxI., April 1875 to December 1900 (except Part 2 of Vol. ix. and Index to Vol. xxix.)

“Montgomeryshire Domesday Book, being the return of Owners of Land, 1873.”—Supplement to Vol. ix. Issued by the Powysland Club.

General Index of the first Fourteen Vols,

49 NATURALIST, THE

Nos. 198—257. From January 1892 to December 1896.

50 NATURE.

No. 451. 20th June 1878.

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51 NEWCASTLE-UPON-TYNE SOCIETY OF ANTI-QUARIES. Proceedings.

Vol. VIII., pp. 225—270 (*i.e.* to end of Vol.) (5 Parts.)

Also a second copy of pp. 225—258. (4 Parts.)

Index to Vol. VIII. (2 Copies.)

Vol. IX., pp. 1—320 (except the following pages, which are missing: 187—190, and 203—210.)

Vol. IX., pp. 1—8, 15—46 (Nos. 1, 3, 4, 5.) This a duplicate, so far as it goes.

Index to Vol. IX, pp. I.—XX.

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Some odd pages of an Index.

Also some odd pages of Copies of certain Parish Registers of Baptism, Burial, etc.

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- 54 NORTHAMPTON NATURAL HISTORY SOCIETY
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- 57 OWENS COLLEGE, MANCHESTER MUSEUM.
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1—From 1st October 1890, to 31st December 1894.

2—Year 1895-6.

- 58 PERTSHIRE SOCIETY OF NATURAL SCIENCE.

a—Proceedings.

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b—Transactions and Proceedings.

Vol. I., parts 1 and 2, 1886-7—1887-8.

- 59 PLYMOUTH INSTITUTION, AND DEVON AND
CORNWALL NATURAL HISTORY SOCIETY.

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Vol. IV., parts 2 and 4, 1870-1—1872-3.

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- 60 POWYSLAND CLUB. (See Montgomeryshire, No. 48.)
- 61 ROYAL PHYSICAL SOCIETY. Proceedings.
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(except the 105th Session, forming part of Vol.
iv. and the 118th Session, forming part 1 of
Vol. x.)
- 62 ST. LOUIS ACADEMY OF SCIENCES. Transactions.
Vol. i., No. 2, 1857; vol. vi.—x.
- 63 SCOTTISH GEOGRAPHICAL MAGAZINE.
Vol. xi., No. 1, January 1896.
- 64 SCOTTISH NATURAL HISTORY SOCIETY. Trans-
actions. Vol. i., part 1, Session xviii., 1898-9.
- 65 SELKIRKSHIRE, HISTORY OF, OR CHRONICLES
OF ETTRICK FOREST.
Vols. i. and ii., by T. Craig Brown.
- 66 SELBORNE MAGAZINE, THE. Vol. ii., No. 14, 1889.
- 67 SHEFFIELD NATURALISTS' CLUB. Report.
25th Annual Report, 1895.
- 68 SMITHSONIAN INSTITUTION AND UNITED
STATES NATIONAL MUSEUM.
a—Annual Reports.
Years 1857, 1858, 1869—1876, 1878—1894.
b—Miscellaneous Collections.
c—Unclassified Publications.

- 69 SUNDRIES. (51 in number.)
- 70 TRENTON NATURAL HISTORY SOCIETY. (See
New Jersey Natural History Society, No. 52.)
- 71 TUFT'S COLLEGE. Studies. Nos. I., II., IV., V., VI.
- 72 UNITED STATES COMPTROLLER OF THE CUR-
RENEY. Annual Reports.
Report to the 3rd Session of the 45th Congress, 1st
December, 1878. (3 Copies.)
Report to the 2nd Session of the 46th Congress, 1st
December, 1879. (3 Copies.)
- 73 UNITED STATES ARMY SIGNAL SERVICE—War
Department Weather-Maps.
1—Tuesday, 10 December 1872, 7-35 a.m.
2— " " " 4-35 p.m.
3— " " " 11 p.m.
Published by order of the Secretary of War, and
signed "Albert J. Myer."
- 74 UNITED STATES DEPARTMENT OF AGRICUL-
TURE.
a—Reports.
Reports for years 1869, 1872, 1873.
Reports of the Commissioner of Agriculture for
years 1871 and 1873.
Monthly Reports of the Department for 1874.
Report of the Secretary of Department for 1898.
b—Year Books for 1897 and 1898.
c—Bulletins.
Nos. 1, 3, 4, 6, 8—11.

d—North American Fauna.

Nos. 1—5, 1889-91; no. 7, part II., 1893; no. 8, 1895; nos. 10—15, 1895—1899.

75 UNITED STATES GEOLOGICAL AND GEOGRAPHICAL SURVEY OF THE TERRITORIES.

a—Annual Reports.

1st, 2nd, and 3rd, 1867, 1868, 1869 (1 Vol.)

2nd—11th, 1870—1877 (2 copies of 7th, 1873.)

Supplement to 5th Annual Report:—"Report on Fossil Flora."

b—Bulletins.

Vol. I., 1874-5 (except No. 3 of Second Series.)

Vol. II., parts 2, 3, 4, 1876.

Vols. III.—V., 1877—79.

c—Final Reports or Monographs.

Vols. I., II., V. (part 1), VI., VII., IX.—XII.

d—Miscellaneous Publications.

Nos. 1—12.

e—Unclassified Publications.

(11 in number.)

76 UNITED STATES GEOLOGICAL SURVEY.

a—Annual Reports.

2nd—19th, 1880-81 to 1897-8.

20th, parts I., VI., and VI. continued, 1898-9.

b—Monographs.

Vols. XXV.—XXXI., XXXII. (part II.), XXXIII., ~~XXXIV.~~,
XXXVI.—XXXVIII.

c—Bulletins.

Nos. 87—89, 127, 130, 135—162.

- 77 UPSALA UNIVERSITY. Geological Institution.
a—Bulletins.
Vols. I.—IV., 1892—1898.
b—Sundries (Donations.)
(68 in number.)
- 78 WANGANUI (NEW ZEALAND) PUBLIC MUSEUM.
Fourth Annual Report, 30th June 1899.
- 79 WISCONSIN ACADEMY OF SCIENCES, ARTS, AND
LETTERS. Transactions. Vol. XI., 1896-7.
- 80 WISCONSIN GEOLOGICAL AND NATURAL
HISTORY SURVEY. Bulletin.
Bulletin No. 1, Economic Series, No. 1.
,, No. 2, Scientific Series, No. 1.
- 81 YORKSHIRE NATURALISTS' UNION. Transactions.
Parts 1—21, 1877—1895.
- 82 YORKSHIRE PHILOSOPHICAL SOCIETY. Annual
Report for 1888.

ERRATA.

Page 75, line 4 from bottom—for “Pride” read “pyle.”

Page 76, line 17 from top—for “like” read “lytle.”

PRESENTED

5 NOV. 1903



PROCEEDINGS
OF THE
BERWICKSHIRE NATURALISTS' CLUB.

*Address delivered to the Berwickshire Naturalists' Club
at Berwick, 9th October 1902. By SIR ARCHIBALD
BUCHAN-HEPBURN, BART., Smeaton-Hepburn, Preston-
kirk.*

LADIES AND GENTLEMEN,

Presenting myself to you for the last time as your President in 1902, I wish to express to all the deep sense of my indebtedness to them for the kindly manner in which they have always received me, and especially do I desire to express my thanks to the officers of the Club, who, by their energy and thoroughness, have rendered my position as President a sinecure. More especially are our thanks due to Captain Norman, who, like the

gallant sailor that he is, stepped into the breach, and became our Interim Organizing Secretary. With what complete success he has carried out the duties during the past season is now a matter of history. I have had the good fortune to be present at all the meetings, with the exception of the one at Peebles, and the extra one to the Farne Islands. The weather has favoured us, and some of the finest days of this somewhat disappointing season were those on which the Club held its meetings. A full report of these will in due course be supplied by our able Editing Secretary, Mr Butler.

I must confess I have found considerable difficulty in selecting a subject that might not be wholly uninteresting to you, and within my capabilities. In looking over bygone addresses of my predecessors in office, the subjects available and undealt with seemed gradually to be reduced to the vanishing point. Protective mimicry in the insect world is an intensely interesting subject, but to deal adequately with it would take us into far lands, and is to that extent outside the more limited area of our functions as a Club. The short visit the Club did me the honour to pay to Smeaton on the occasion of their expedition to the Bass Rock, suggested that, perhaps, without appearing egotistical, a short statement of some of the chief points of interest at Smeaton might not be inappropriate, the more so that no notice has ever appeared in print.

The two subjects I should like to dwell on for a short time to-day are the lake and the various species of coniferæ as they at present exist. For most of the details I am indebted to my father's journal of 1830, and later years. The pleasure grounds and policies were practically created by him, and the ornamental planting carried out under his direction. The lake, as it at present exists, is half a mile round, runs nearly due east and west, and occupies the site of an ancient bog. It contained more or less open water at its east end. A steep cliff rises on its

southern bank, formed by the edge of an overflow of lava. This overflow of Felspathic Trap can be traced both east and west. Another parallel overflow of a similar character, but on a larger scale, occurs about three miles to the north at Balgone. These overflows emanated from one of the many volcanic vents (notably Traprain Law, North Berwick Law, the Bass Rock, and the Garlton Hills) that at that period existed in this part of the country. Probably this flow came from the neighbourhood of Traprain Law, and it overlies the calciferous sandstones of the district. The lake in its present condition was apparently the outcome of two separate operations. The eastern part was dealt with early in the 19th century. This date I am unable to fix further than that it was some years previous to 1830, the date at which the westmost part was cleaned out. There appears to always have been water, and a deep bog, at the east end, and the same conditions obtained apparently in the eastmost part of the western portion.

The following is an extract from the journal, dated December 1830 :—

Smeaton,

December 1, 1830.

“Some few horns were found of the red deer in the moss of the pond they are now cleaning out. A week ago the skeleton of a roe deer was found; and two years ago, when the eastern part was cleaned out, two entire skeletons of red deer, with large antlers, were found. One measured about 8 feet from the tip of his antlers to his hoofs. The moss is a vegetable substance, having an ochrous colour when first dug; but very speedily, on exposure to the air, it turns very black. Nuts, seeds, branches of trees (chiefly hazel, and some oak) are found. The water has washed two feet or more of good soil on the top of the moss from the sides of the surrounding slopes, so that the western half, the part they are now digging at, was cultivated. The moss is very deep.”

December 9.

"Part of the banks on both sides of the pond have sunk nearly two feet perpendicularly last night."

Saturday, December 25.

"A spring at the end of the lake was at the temperature of 47 F., when the bulb was immersed 3 or 4 inches. The spring has only made its appearance since the sinking of the banks of the pond, which appears to be owing to the absence of the water, which prevented the soft moss from being displaced by the weight of the earth above it, on the banks."

I have the greater part of the skeleton referred to in this note. It was partially set up by my father at the time. Some of the members may remember having seen it when at Smeaton. The head, a royal of twelve points, is remarkably symmetrical and widespread. The following, are the measurements:—No. of points, 12; outside span, 42½ inches; inside span, 32½ inches; round base, 8½ inches. The cup is well defined, but small. This cup is a very characteristic specialisation of the western race of red deer, and is found to decrease as we go east into Asia, where the cup is small, or absent. The red deer apparently originated in Central Asia, and may perhaps have had for its ancestor the less specialised Sikine deer. *Cervus Elaphus* apparently divided into four branches, one going west into Europe, and becoming the ancestor of our red deer. Two races of *Wapitis* remain in Central and North-eastern Asia, and a fourth crossed by what is now Bering Straits, to become the American *Wapiti*.

Another pair of horns, slightly damaged, but with apparently nineteen points, with the cups very largely developed, is also in my possession. Being anxious to compare the measurements with other heads from similar sources, I applied to my friend, Mr Eagle Clarke, at the Museum in Edinburgh, and was not a little surprised to hear that they have no specimens from Scottish bogs.

With regard to the date when wild red deer ceased to wander over the Lothians, Mr Clarke informs me that, unfortunately, there are no trustworthy records. He adds—"It was not a few centuries." Without doubt, in this part of East Lothian, with its early civilisation, and absence of mountains, the red deer became extinct at an earlier period than in many parts of the south of Scotland, where they had greater opportunities of concealment.

The lower portion of an old circular stone mill, with moulded spout, was also found.

Sheltered as the neighbourhood of the lake is, from the prevailing S.W. wind, it offered an admirable situation for the planting of coniferæ and other trees and shrubs. This was fully taken advantage of. I might add, too fully, because, with the very natural disinclination to cut out trees one has watched growing from childhood to maturity, many have been damaged by too close proximity to each other. The sheltered position has, however, this disadvantage, that when the trees get above the shelter they are apt to lose their tops, as has been markedly the case with Douglas and Grandis, the latter having all lost their tops, without exception.

This was the age of those pioneers of conifer collecting—Coulter, Douglas, Fortune, Lobb, and others.

Robert Fortune we claim for our district. He was a native of Berwickshire, and received his education at Edrom. Perhaps one or two details of his life may not be devoid of interest. He was born in 1812, and died in 1880. He served an apprenticeship at the Botanical Gardens in Edinburgh. In 1841 he went to London, on being appointed foreman of the Horticultural Society's Gardens at Chiswick, and from there to China. Here he travelled extensively. In '46 he returned to this country, and was appointed to the curatorship of Chelsea Gardens, and there he remained till 1848, when he started on an expedition to China, in the employ of the East India Company, to collect tea seeds for transmission to

India. This duty he successfully performed, and thus became the founder of the great tea growing industry of India. In 1858 we find him in the employment of the American Government in China and Japan. Among conifers, he was instrumental in introducing *Cryptomeria Japonica*, *Laricopsis Kaempferi*, *Cephalotaxus Fortunei*, *Pinus Bungeana*, *Thuya Japonica*, *Cupressus Funebri*, besides many other plants.

The Oregon Society was a fruitful means of obtaining and distributing seeds and plants, and though I do not think my father belonged to it, yet some of the earliest seeds or plants came into his possession. He was later on a member of the British Columbia Botanical Society, whose collector was Robert Brown.

The winter of 1860 and 1861 damaged or killed many species of coniferæ, as the following entry shows:—"The winter of 1860 and 1861 was the severest recorded here; the snow lay 37 inches all over, and, where drifted, interrupted communication for more than a week. The thermometer fell to 6 degrees below zero fahr."

The following trees were injured:—*Cup. Torulosa*, four to five feet of top killed, and many branches; others killed; *Cup. Macrocarpa*, two more or less injured, one killed; *Cup. Thurifera*, nearly killed; *Araucaria*, much injured on terrace, ones at lake uninjured; *Sequoia Sempervirens*, small branches killed; *Pinus Insignis*, several injured but not killed; *Pinus Coulteri*, much injured; *Pinus Macrocarpa*, leading shoots killed; *Pinus Acahuite*, slightly injured; *Abies Webbiana*, severely injured; *Cedrus Libani* and *Atlantica*, some tips injured; *Cunninghamia Lanceolata*, injured. The following were uninjured:—*Cedrus Deodara*, *Thuya Pendula*, Chinese *Thuya*, *Arborvitæ*, *Cryptomeria Japonica*, *Pinus Excelsa*, *Lambertiana*, *Pallasiana*, *Ponderosa*, *Abies Cephalonica*, *Grandis*, *Nobilis*, *Pinsapo*, *Menziesii*, *Picea*, *Pindrow*, *Smithiana*, and *Douglas*.

I have here a list of all the largest conifers growing in the grounds at Smeaton that were planted before 1860.

With their height and girth, at five feet from the ground, they will be found to compare very favourably with trees planted in other parts of Scotland, and, in some cases, they would appear to surpass them. For purposes of comparison I have taken Dunn's list, published in the reports of the Conifer Conference in 1892, and added 10 feet to the height there given. Mr Dunn's list, though a very full one, is not exhaustive, consequently there may be finer specimens existing in the country that were not reported to him. I will not weary you by reading out all these details; they will appear in due course in our journal, as an Appendix to the few remarks I have made to-day.

An interesting question arises in connection with the specimen of *Amabilis*, if a topless tree can be thus described. *Amabilis* was first discovered by Douglas in 1825, in the neighbourhood of the Columbia river; but he did not succeed till 1830 in sending a small consignment of seed home. The seed was sown at the Horticultural Society's Gardens in London, and subsequently plants were distributed among the Fellows. Only two trees can be traced as belonging to this batch, one at Dropmore, planted in 1835, and at Orton Hall, Peterborough. All attempts to rediscover the tree failed. It was not till 1880, fifty years later, that the tree was again found on the Fraser river. Now, the *Amabilis* I have was planted in 1843 as a *Grandis*, under which name it stood till male flowers were submitted to Mr MacNab, who writes under date 1886:—"Your *Grandis* is the true *Amabilis* of Douglas, one of the most beautiful flowering pines I ever saw. It is the first time, to my knowledge, that it has flowered in Scotland, and I have not heard of any in England producing flowers. He adds:—The flower of *Cephalonica*, as well as *Cupressus Torulosa*, is also new to me." As *Amabilis* is associated in its native country with *Grandis*, it would appear that a stray cone, at any rate, must have been gathered of the former. *Concolor*, introduced

in 1851, was also distributed under the name of Grandis, thus adding to the confusion already existing. For the above details as to Amabilis, Grandis, and Concolor, I am indebted to Veitch's Manual of 1900.

Since the foregoing was written, the agenda of to-day's business was issued, and you doubtless share to the full my deep regret that we are to lose in one fell swoop our Editing and Organizing Secretaries. Mr Butler kindly wrote me explaining his reasons fully, and stated that it was solely owing to the pressing claims on his time that he was forced to arrive at this decision. Under these circumstances, I could not do otherwise than accept his resignation, with great regret and a lively sense of his services to the Club. With regard to Captain Norman, he accepted the interim post when we were hard pressed, and the Club thoroughly appreciated his disinterestedness and self-sacrifice. I think that a resolution to that effect should be inserted in our Transactions. Mr Butler, however, will kindly complete the publication of this year's volume.

One word more. A most interesting and sympathetic memoir of our late Organizing Secretary appears in last year's volume, but I should be loth to conclude without availing myself of this opportunity of adding a few words of my own in affectionate remembrance of one who, as my brother-in-law, has been intimately associated in all my life memories, from childhood onwards. It is only under such circumstances that it is possible fully to appreciate his sterling worth and qualities, his absolute unselfishness and obliteration of self where the happiness or pleasure of others was concerned. I can most truly say that I never heard him utter one word in anger. I remember when Sir George Douglas asked me to be your President, one of the chief objects we had in view was that Colonel Milne Home would probably continue to help me as Organizing Secretary, a position he so admirably filled.

The last letter I had from him was suggesting a meeting to arrange about our gatherings for the year. Well, gentlemen, we, alas, know the sequel. He was struck down in the midst of a busy, useful life, the why or the wherefore it is not for us to enquire, but we can hold no better, no higher ambition, I think, than to imitate, in so far as we may, the high example he set us in every act of his life. His life is ended, and his place, alas, can never be filled; but if there is any consolation to those who are near and dear to him, it lies in this fact, that but to few has it fallen to carry with them to the land beyond our ken, so much esteem, so much regard, so much affection. *Requiescat in pace.*

Ladies and Gentlemen, it only now remains for me, in again tendering to you my thanks, to perform the last act of official life, viz., to nominate the President for 1903. I am fortunate in having obtained the Rev. Thomas Martin's permission to nominate him your President for the coming year. We have a lively remembrance of his unremitting attention to us at our late meeting at Lauder, and I feel sure his appointment will be received with unanimous approval by every member of the Club.

APPENDIX I.

Coniferae at present growing at Smeaton, 1902.

	Date when Planted.	Height when Planted.	Age.	Height. F. I.	Girth at 5 feet. F. I.	Notes.
ABIES.						
Albertiana	...					
Amabilis	1843	8 in.	59	66 3 28 5	3 4 8 9	Lost top in 1859, has never put up a new one.
Cephalonica	1841	7½ in.	61	68 1	9 8½	A taller one blown down a few years ago.
Concolor	1853 P	...	...	62 10	5 0	
Menziesii	1842	2 ft. 6 in.	60	87 3	10 6	
Morinda	1839	1 ft.	63	66 10	6 0	
Nobilis	1843	1 in.	59	78 5	8 5	
Pectinata	...	...	...	90 1	6 6	
Canadensis	1844	...	58	32 5	5 6	
Pindrow	1844	...	58	53 0	3 10	At 4 ft. from ground.
Pinsapo	1843	8 in.	59	47 9	6 10	
ARAUCARIA.						
Imbricata	1843	10 in.	59	44 9	3 10	
CEDRUS.						
Atlantica	1843	1 ft. 11 in.	59	59 5	9 4	Another 69 H., 6 6 G., age 55 years.
Deodara	1841	2 ft. 7 in.	61	55 3	6 7	
Libani	1843	...	59	59 7	8 6	

Conifere at present growing at Smeaton, 1902 (continued.)

	Date when Planted.	Height when Planted.	Age.	Height. F. I.	Girth. at 5 feet. F. I.	Notes.
CRYPTOMERIA.						
Japonica	1847	...	54	42 4	2 10	
LIBOCEDRUS.						
Decurrens	1843	...	59	52 1	5 2	
PINUS.						
Austriaca	...	...	...	69 1	8 4	
Cembra	...	...	...	42 7	7 4	
Excelsa	1839	1 ft. 3 in.	63	76 0	12 0	Girth at 2 ft. divides into 3 trunks, 6 ft. 11 in., 5 ft. 7 in., 6 ft. respectively in girth.
Insignis	1843	3 ft. 1 in.	59	56 2	7 6	
Jeffreyi	1836	...	46	72 6	4 9	
Pallasiana	1843	8½ in.	59	78 6	6 6	
Pinaster	...	...	...	61 0	5 9	
SEQUOIA.						
Sempervirens	1844	...	58	56 8	9 0	
Gigantea	1855	7½ in.	47	76 7	12 2	Has lost 36 ft. of top at various periods.
THUYA.						
Lobbi	1859	...	43	66 10	5 10	

Coniferae at present growing at Smeaton, 1902 (continued.)

	Date when Planted.	Height when Planted.	Age.	Height. F. I.	Girth at 5 feet. F. I.	Notes.
CUPRESSUS.						
Macrocarpa	1854	3 ft. 6 in.	46	...	7 4	
Lambertiana	1854	4 ft.	46	67 8	3 2	
Lawsoniana	...	...	...	44 3	2 8	
Nootkatensis	1859	...	43	48 0	1 7	
Torulosa	1843	...	59	31 9		Has lost its top.
FUNIPERUS.						
Excelsa	...	...	...	32 10	3 0	
Sinensis	...	...	...	38 7	4 4	
TAXUS.						
Irish	...	...	...	29 3	...	Circumference of branches, 57 ft.

APPENDIX II.

*The Finest Specimens in Scotland.**Taken from Mr Malcolm Dunn's list, 1892.*

SPECIES.	LOCALITY.	Age.	Height.	Girth.	
ABIES.				F.	I.
Albertiana ...	Castle Menzies ...	38	72	5	9
Concolor ...	The Cairnes ...	30	55	6	0
*Grandis ...	Riccarton ...	...	83	3	8
*Amabilis? ...	Drumlanrig ...	17	32	3	0
Cephalonica ...	Whittinghame ...	45	55	8	0
Menziesii ...	Castle Menzies ...	46	96½	11	0
*Morinda ...	Hopetown, one of 6 original Seeds	70	76	8	0
Nobilis ...	Keir ...	40	82	5	8
Pectinata ...	Rossdhu ...	108	110	17	9
Canadensis ...	Portalloch ...	...	55	4	0
Pindrow ...	Castle Kennedy ...	35	38	3	2
Pinsapo ...	Scone ...	39	47	...	...
ARAUCARIA.					
Imbricata ...	Portalloch ...	...	55	6	0
CEDRUS.					
Atlantica ...	Hopetown ...	...	59	6	8
Deodara ...	Rossie Priory ...	...	70	5	9
*Libani ...	Methven ...	...	90	9	10
CRYPTOMERIA.					
*Japonica ...	Keir ...	40	42	9	8
CUPRESSUS.					
*Lawsoniana ...	Dupplin ...	32	55	4	3
*Torulosa ...	Dalkeith ...	20	11	1	2
LIBOCEDRUS.					
Decurrens ...	Torloisk ...	35	37	...	...

SPECIES.	LOCALITY.	Age.	Height.	Girth.
PINUS.				F. I.
Austriaca ...	Whittinghame ...	45	51	6 9
Cembra ...	Abercairney ...	30	55	7 0
Excelsa ...	Manches ...	30	60	6 1
Insignis ...	Bute ...	34	57	4 11
*Jeffreyi ...	Fordell ..	35	50	3 6
*Pallasiana ...	Brodie ...	70	50	7 7
THUYA.				
Gigantea ...	Portalloch ...	...	65	5 0
THUYOPSIS.				
Borealis ...	Murthly ...	30	50	1 9
WELLINGTONIA	Castle Menzies ...	35	52	13 9

Species marked * are the highest in Great Britain at that period in Dunn's list.

For purposes of comparison with Appendix I., 10 feet might be added to the above trees, for the difference of ten years in the dates of measurement.

*Reports of the Meetings of the Berwickshire Naturalists'
Club for 1902.*

ROTHBURY FOR CRAGSIDE.

THE FIRST MEETING of the year 1902 was held at Rothbury, where, in response in great measure to the kindness of Mr Watson-Armstrong, to visit Cragside, many members of the Club met together, representing the several northern counties, from Yorkshire to Midlothian.

Amongst those present were the following:—Sir Archibald Buchan-Hepburn, Bart., Smeaton Hepburn, Prestonkirk, President; Mr G. G. Butler, Ewart Park, Wooler, Editing Secretary; Mr George Bolam, F.Z.S., Berwick, Treasurer; Colonel Brown, Longformacus, and Miss Brown; Mr J. Cairns, Alnwick; Mr Carmichael, Coldstream; Mr W. Dunn, Kelso; Captain Forbes, R.N., and Miss Forbes, Berwick; Mr Fortune and Miss Fortune, Duns; Mr H. B. Fox, Galewood; Mr A. Giles, Edinburgh; Mr G. P. Hughes, Middleton Hall; Mr David Hume, Thornton; Mr B. Morton, Sunderland; Mr A. Riddell, Yeavering; Rev. Evan Rutter, Spittal; Mr A. P. Scott, Amble; Mr T. B. Short, Berwick; Mr J. A. Somervail, Broomdykes; Mr Edward Thew, Birling; Mr Thompson, Glanton; Mr Bailie Veitch, Jedburgh, and Miss Veitch; Rev. Beverley Wilson, Brantingham, Yorkshire, with Mr C. B. Wilson, Whitby, and Mr A. B. Wilson, Para, Brazil.

The sky was changeful, and the weather at first prone to showers, though not continuously rainy. It had been intended that walking parties should be formed, by those who wished, to visit the Simonside Hills, Whitton Dene, and Lordinshaws Hill, to examine the very perfect remains of an ancient camp, some incised stones, burial-mounds, and hut-circles; the Pele Tower at Great Tosson, and the "Burgh" Camp. But all these, and the botanizing in their neighbouring runnels, are postponed to another day and year; such was the decision brought by the rain at 11 o'clock to the assembled members, who thereupon devoted the whole period of their visit to the demesne of Cragside, for here was shelter to be found. They followed the guidance of Mr Bertram, who has been connected with the estate since its first formation by the late Lord Armstrong, and no better guidance could have been obtained, as they followed him through flower gardens and spacious conservatories, on the high ground to the west of the Dene. Here they saw a finely varied collection of flowers, plants, and trees, from temperate to tropical, carefully tended; some shielded by vertical glass screens, others enclosed in rotating glass cylinders; amongst them fig, peach, and other fruit trees, and an especially admirable *Datura*.

As the rain ceased and the sky cleared, a move was steeply made downhill, and brought us past a fine *Pinus Nordmanniana*, and more than one example of *Nobilis*, *Douglas*, and *Wellingtonia*, to the bridge which spans the narrow chasm. From this bridge we have a fine view of the upper stream, which, in its lower course, runs through a densely-wooded glen, to join the Coquet from Rothbury.

Beyond the bridge the pathway led up-hill by a steep stairway, each step a large stone slab, with Alpine plants and flowering shrubs on either side, including *Erica*, *Gaultheria*, and *Cotoneaster*; this was in all respects like some Swiss mountain pathway, and it led us to the house, where, from the terrace, walled around, were to be seen, quite near us, on the sloping hillside, six pine trees of differing species, each one a fine example of its own. Thence along a roadway, at times horizontal, at times slightly downward, we walked by the left bank of Coquet's tributary stream, but high above its prattling water, through a rhododendron-azalea forest, above

whose dense mass were displayed the uprearing crests of varied conifers, while here and there a grim rock face peeped out through the thick screen of vegetation. The sloping sandy humus is a most favouring bed for the shrubs that have here been planted. Among conifers which were apparently absent were *Abies Excelsa* and *Pinus grandis*; one cluster only of *Hemlock Spruce* was noticed by the naturalists this day. Our attention was attracted by some well-grown *Araucarias*, which showed that drooping curve of the lower limbs whereby this tree gains so much in dignity and grace as it grows older.

Turning at last, after more than a mile of wandering in pleasant groves, where the rhododendron bloom in its beauty held promise of still greater brilliance, we came back at a higher level, among Scotch firs of some 35 years growth, to the mansion. Cragside, designed by Norman Shaw, R.A., has a most picturesque and unique appearance as viewed from the grounds. It is built in a composite style of architecture, partly Gothic and partly Elizabethan. Here Mr Bell, private secretary to Mr Watson-Armstrong, received us, and, in the absence of its owner, showed us some of the treasures which the house contains.

Chief among these were the pictures. There were three very fine Turner water-colours—Kidwelly Castle in South Wales, the Lake of Lucerne, and Dunstanburgh Castle; some charming sketches by David Cox, Copley Fielding, and Birket Foster; two fine cattle pictures by Peter Graham, one entitled "Moorland Rovers"; a Millais, "Jephtha and his daughter"; a cattle scene by T. H. Cooper; a sea piece by Turner; and a Vicat Cole, sunset over moorland; and on the stairs was hanging a Mosque Interior, by Leighton; and a small Landseer, a view of a highland loch. In the drawing room was the elaborate and admirably worked mantel and chimney corner of Carrara marble, Mexican onyx, alabaster, and Rosso Antico, erected at the time of a visit paid to Cragside by the present king and queen, about 17 years ago, when they were Prince and Princess of Wales. A memorial album recording the Royal visit was shown, constructed of oak taken from Hadrian's bridge across the Tyne at Newcastle, dating from the year 120 A.D. Amongst curios were an

ancient British urn, two Celtic axe-heads, and a flint axe-head. Finally we saw the billiard room, with its elaborate decorations of carved wood, occupying a space hewn out of the solid rock, as all future extensions at the rear of the mansion will have to be carried out.

After expressing their thanks to Mr Bertram and Mr Bell, and through them to Mr Watson-Armstrong, the members dined together at the Queen's Head Hotel, in Rothbury, after a very pleasing sojourn at Cragside.

For brief notes on previous meetings of the Club at Cragside, members are referred to the "Proceedings" for 1865, Vol. v., p. 193; and for 1876, Vol. viii., p. 26; in the former of which the house is described as nearly completed, and the grounds as in process of being laid out and planted by the owner, Sir W. Armstrong.

EXTRA MEETING FOR 1902.

THE FARNE ISLANDS.—Wednesday, 25th June.

Our fellow member, Mr John Dent, of Newcastle, kindly offered to take such members of the Club as would care to go off to the Farne Islands with him, on Wednesday, 25th inst., and for this purpose his steam yacht *Stanley* was in readiness at North Sunderland on the arrival of the train which left Chathill at 8-20 a.m., so as to return in time for the evening trains.

Sir George Douglas, who was one of the voyagers, gives the following account of the impressions he received upon this occasion.

A Bird-Fancier's Paradise.

By SIR GEORGE DOUGLAS, BART.

Far northward on the Eastern coast a small grey fisher-town, "Sea-houses," overhangs its pier-protected harbour. The aspect of the spot is self-contained, reserved, as of a place that does not readily unbosom itself to strangers. From Sea-houses, looking seaward on a clear day, the greensward and the whitewashed lighthouse-buildings of the Inner Farne appear invitingly near at hand. In reality the island is less than three miles off, and as the scene of the passionate-hearted Cuthbert's ascetic self-isolation it well merits a pilgrimage. Let the intending pilgrim prepare his mind by reading, from the Venerable Bede, how a king came humbly with his retinue, and by force of tears and entreaties plucked the hermit-saint from his retirement back to the world and to his death. I think he will not read unmoved; for, rude and materialistic as this age may be, goodness still shines, in Portia's simile, as a candle in a darkened world. It is a little remarkable that the only other human association

of this wild group of isles is that of the devotion of Grace Darling, whose father was keeper of the lighthouse on the Longstone, and from whose heroism levellers have in vain attempted to detract. So that, few as their inhabitants all told have been, the Farnes can boast a light of either sex. It is not, however, with humanity, but with those to whom humanity is a thing entirely indifferent, that I have here to do.

It is well known that the Farne Islands are principal stations of certain varieties of our sea-birds during the breeding season, where it is good to know that they are now protected against the murderous outrages heretofore sometimes practised upon them. In a fine summer, from May to August, what naturalist but would be attracted by the thought of enlisting as a watcher on behalf of the lessees of these rocks? True, the up-putting would be rough, the prospect limited, the society severely restricted. Supplies are brought off from the mainland once a week. On the other hand, the work is not heavy. It is principally night work; for the fishermen, who are the chief would-be marauders, seek the covert of night for their attempts to effect a landing and to carry off eggs. Conscious, however, that the conspicuous marking on their boats is a witness against them, they will generally sheer off quickly upon the first alarm. So that the wakeful watcher is spared all trouble in taking action, his mere presence sufficing to effect the object desired. More reckless visitors, though not unknown, are of but rare occurrence.

During daylight, line-fishing from a boat and the setting of crab-traps are pastimes ready to the watchman's hand. You observe that I do not venture so far to outrage realism as to figure him as some Gilliat of a natural, heaven-inspired poet? No; for him the lapping waters and the beating sunshine are the said things, "and nothing more." He remains unsentimental, though the white flowers of the campion luxuriate in the desert waste. When a sudden condensation of the atmosphere cuts him off by double isolation—blindness superadded to the estranging wave—he thinks of it as "sea fret"; that is all. But he can scarcely continue long amid present surroundings without becoming interested in the birds, the object of his guardianship.

Suppose that in his care is the islet of the tern—here denominated, with baffling etymology, “the knox.” Overhead, on the smallest disturbance, a confused and plaintive crying, as these most delicately-shaped of sea-birds—the sea-swallows—pass in swift agitation to and fro. Undistinguishable in the moving crowd, save by the practised eye, four varieties of the bird are represented; the “common” and the arctic (closely resembling one the other), the larger Sandwich, and the rarer “roseate,” its breast-feathers exquisitely tinted. This overhead; upon the ground, nicest precaution to be observed in planting the foot. For the fine, gritty gravel and rough herbage of the sloping shore are set and planted—here, there, yonder, and just beyond—with small and greenish eggs, two to the nest—nay, to the clutch, for nest is none. With eggs, but not eggs only; for the ground is moving with baby chicks—a very tender, winning life-form—coloured to match itself. Hence our precautions. (It is laughable to see the older birdies run, and, hoping to escape detection, stick their heads in the first crevice.) Nor must we linger long, for half an hour’s disturbance of the sitting birds may suffice to chill their eggs.

The outlying Megstone Rock is the haunt of the ravenous cormorant. Upon the Crumstone, seals may sometimes be counted to the number of twenty or thirty. But say we turn now to the Pinnacle, the nest-ground of the guillemots. It is approached by landing on the Staples Islet, upon whose cliffs nest black-backed gulls, and those most quaint of birds, the puffins, or sea-parrots. That showy bird, the oyster-catcher, or sea-pie, utters his sharp, repeated note, and lights upon the headland; whilst, as you pass, you may stoop and fondle with the hand an eider-duck, so closely does she sit, defying all disturbance. We have now left behind us the sandstone formation of the inner island; the Pinnacle is formed by a cluster of dark basaltic columns rising sheer from the sea, within a few yards of the Staples Cliff. This is the breeding-ground chosen for itself by the “foolish” guillemot, and the choice serves to stultify the epithet applied to the bird. Standing upon the cliff, and looking over to the column, the sight is of its kind the most striking I have known. Close-packed as slaves within the hold of a slave-ship, stand

the parti-coloured birds upon their airy isolated platform. You would swear that there was not room to set down one more of them; and if it chance that a bird has vacated her post, her reception once more into the ranks will necessitate a general slight shifting and shaking down. On lower levels, upon available ledges and brackets at the sides of the rock, are seen the dove-grey wings of nesting kittiwakes. But to the platform guillemots only are admitted. And from the closely congregated mass a querulous crying goes up. Rising and falling, it yet ceases never—steadfast and persevering as the very murmur of the sea which “cannot be quiet.”

Couched on the sunny cliff-head, one may bend the ear, make a sound-conductor of the hand, let the wind blow this music towards one, and strive to penetrate its character. A recent writer upon bird-life has asserted that the sweetest note produced by any bird is that of the fulmar petrel, and I have known a skilled ornithologist compare the said note to the preliminary murmur of the guillemot when about to raise her cry. On the present writer's ear the effect is utterly diverse. Inland-bred, he can recognise no tonal beauty save in the note of inland birds. The rapture of the thrush in May-time, the joyous whistle of the blackbird, the prolonged wail of the nightingale, and, that most fairy-like of sounds, the snatch of song uttered by the reed-warbler when disturbed by night; these charm the ear with a beauty of tone which is abstract and absolute. Even the restricted compass of the chiff-chaff, the solitary interval of the cuckoo, the monotonous trill and cadence of the yellow-ammer, have their proper musical value. But the beauty of the sea-birds' cry is one entirely of suggestion; its appeal is through the imagination, not the senses. Speaking in human terms, it occupies musical ground ignored by Mozart, appropriated by Wagner. And its suggestions are of desolate seas and savage shores; of an eager, maybe joyous life; but of one, unlike that of the woodland songster, entirely alien from and indifferent to our own.

COCKBURNSPATH.

THE SECOND MEETING of the Club for 1902 was held at Cockburnspath, on Thursday, July 10th.

Those present were:—Sir Archibald Buchan-Hepburn, Bart., Smeaton Hepburn, President; Captain Norman, R.N., Cheviot House, Berwick, Organizing Secretary; Mr George Bolam, F.Z.S., Berwick, Treasurer; and the following members and friends:—Mr William B. Boyd, Faldonside, and Miss Boyd; Rev. John Burleigh, Ednam; Mr Robert Carr, Hetton Hall, Belford; Mr F. C. Crawford, Edinburgh; Mr Allan A. Falconer, Duns; Mr Arthur Giles, Edinburgh; Mr J. G. Goodchild, F.G.S., Edinburgh; Mr George Hardy, Oldcambus; Mr James Hood and Miss Hood, Linnhead; Miss Milne Home, Caldra; Rev. Joseph Hunter, F.S.A. (Scot.), Cockburnspath; Mr John Lawrie, Duns; Mr W. Maddan, Berwick; Mr J. L. Newbigin, Alnwick; Rev. David Paul, LL.D., Edinburgh; Rev. Evan Rutter, Spittal; Mr David Simpson, F.R.A.S., Denmark Hill, London; Mr J. A. Somervail, Broomdykes; Mr T. B. Short, Berwick; and Mr James Todd, Peebles.

The weather, dull in the early morning, later became fine, with a fairly strong breeze which did not mar the pleasure of the day. The members of the Club assembled at Cockburnspath shortly before nine o'clock, and, fortified by breakfast, sallied forth. The main object proposed was a study of the geology of this part of the Scottish coast, and the expedition was made entirely on foot. Mr J. G. Goodchild, F.G.S., who has so often before given his valued help to the Club in its geological researches, acted again as their guide this day, stopping at various points to explain, in his lucid manner, the evidence of past history which the rocks of the site afforded. This famous Mecca of geologists, Siccar Point, where the Old Red Sandstone lies unconformably on tilted and denuded Silurian strata, possesses a geological meaning of the utmost importance. Thither the naturalists wended their way, in the desire of understanding its meaning, passing, as they did

so, by Pease Burn, the Silurian graptolite and Annelid quarry, to reach their destination. Here, at Siccac Point, a wonderfully beautiful view, both artistically and geologically, met their eyes. The Silurian rocks, with the Old Red resting upon them, were beautifully and distinctly outlined. Mr Goodchild absorbed all attention while he explained the formation, in long past ages, of the Silurian strata. According to him, the Silurian must have been here deposited and consolidated some 150 millions of years before the formation of the Red Sandstone, which, in geologists' language, lies unconformably upon the much older Greywacke. He lightened the effort of imagining these prodigious spaces of time by an amusing anecdote regarding the word just used. Having visited this place some time ago, with a party of Edinburgh students, he was reported next morning in the daily press as having said that the sandstone was lying uncomfortably upon the Silurian rock. Mr Goodchild explained, in regard to the original formation of the sandstone, that it had accumulated to a thickness of many thousands of feet upon the top of the Silurian rock, but that the action of different agencies, in subsequent lapse of time, had ground it down to its present level, so that in some places it was practically reduced to nothing, in others to one foot in depth, and in others again to fifty feet. He estimated that the time occupied in its formation was something like 250 millions of years, which, added to the time allotted by him to the Silurian formation, would make a total period of 400 million years. The distinct tones of colour, shown by the sandstone in a very marked manner at the point where they were standing, were also explained. Where the colour of the stone was white, it meant that when the sand settled down there was organic matter, vegetable or animal, mingled with it. On the other hand, where they found the red stone, they might safely conclude that there was no organic matter, nothing but mineral substances present in the water where the sand settled down. A large number of balls of sandstone—or nodules—were pointed out, and Mr Goodchild explained, in a terse and graphic way, how they were formed and how they came to be imbedded in the rock. As the Club proceeded from Siccac Point to Cove, he drew their attention

to the conglomerate which is there visible, having the appearance of huge boulders compacted by cement. They consist of rounded fragments of the rock, fixed in one composite mass by a different mineral substance, and the geological theory is that these conglomerates are millions of years younger than the rocks upon which they lie.

At the Cove Mr George Bolam read a paper on behalf of Captain Cayley-Webster, a brother-in-law of Mr Campbell-Renton, of Mordington, on the Vegetable Caterpillar found in New Guinea. It was shown that the caterpillar descended a tree only when it was full grown, for the purpose of burying itself in the ground to undergo the chrysalis stage, but having been infected by the spores of a fungus it dies. The fungus, living upon it, in due course sends up its flower stem to a height of six or ten inches. In a later stage the fungus ripens, and scatters its seeds upon the backs of a succeeding generation of caterpillars. The seeds, which are spiral bodies, and are contained in little trumpet-shaped tubes, when suddenly released shoot out like a spring.

During the afternoon the botanists plied their search, and amongst the specimens found were:—*Astragalus glycopyllus*, sweet milk vetch; and *Carex extensa*. The Oyster Plant, however, formerly seen among the stones on the beach at Pease Burn foot, was hunted for without avail; it is a plant which appears and disappears from time to time in a capricious manner. In the afternoon of this enjoyable day the company dined at the inn; the President, Sir Archibald Buchan-Hepburn, being in the chair, and the usual toasts—the King, the Club, and the Lady Members—were duly honoured.

Captain Norman, R.N., submitted the following names for election to membership of the Club:—Rev. D. Denholm Fraser, minister, Sprouston; Walter Marchant, Lovaine Place, Alnwick; James Smeall, Jedburgh; Robert Thomson, solicitor, Jedburgh; John T. Craw, Whitsome Hill; Dr Hodgkin, Barmoor; and F. C. Crawford, Edinburgh.

APPENDIX I.

Old Cambus, The Siccar Point, and Cove. By J. G. Goodchild, of the Geological Survey, F.G.S., F.Z.S., Custodian of the Collection of Scottish Mineralogy in the Edinburgh Museum of Science and Art.

(I.) THE QUARRIES OF OLD CAMBUS.

These quarries are excavated in highly inclined, and, perhaps, even inverted, beds of greywacké and argillite of Silurian age, and belong to that lower part of the Silurian Rocks which are the equivalents of the Tarannon Rocks of Wales, and the Pale Slates of the English Lake District. The Scottish type of development of these rocks is now usually referred to by Professor Lapworth's name of the GALE GROUP. They contain many traces of animal life, chiefly in the form of the so-called "annelids," whence the name of "Annelid Quarry," often given to the place in question. With these problematical fossils there occur several species of the curious old-world organisms known by the name of graptolites. Of these the following species have been obtained from Old Cambus quarry by either the writer of this note, or by other persons, in his presence:—

Monograptus crispus.

- „ *exiguus.*
- „ *turriculatus.*
- „ *attenuatus.*
- „ *vomerinus.*
- „ *hisingeri.*

Monograptus pandus.

„ *priodon.*

„ *sedgwickii.*

In addition to these, the following species are recorded in the Geol. Survey Memoir on The Silurian Rocks of the Southern Uplands, p. 209:—

Monograptus galaensis.

„ *convolutus.*

„ *barrandei.*

„ *leptotheca.*

Diplograptus sinuatus.

These are far more than sufficient to fix the age of these rocks with precision, as they include the three graptolites which are characteristic of this geological horizon, which are *Monograptus crispus*, *M. exiguus*, and *M. turriculatus*, none of which is known to occur in any rocks except of the age to which these are assigned,

Close to the “Annelid Quarry” occur two or more remarkable examples of dry valleys, the origin of which has been a fertile source of discussion amongst geologists. One party thinks that there is nothing wonderful about them, and that they are no more than ordinary river courses, which, by some accident, have been deserted by the streams that made them. Another party thinks that they have been formed by the prolonged action of the overflow from old glacial lakes existing here at the close of the Age of Snow, when the ice of the North Sea ponded back the waters which were escaping from the melting of the ice inland. Another party, taking note of the fact that the direction of these depressions coincides exactly with the line of march known to have been followed by the moving ice throughout a lengthy period of the Age of Snow; and taking note, further, that many similar grooves even now bear glacial markings in their lowest parts—these geologists conclude that they are mainly of glacial origin, and due to the mechanical erosion and modification by the ice sheet of old pre-glacial land features. In other words, that the furrows are of glacial origin.

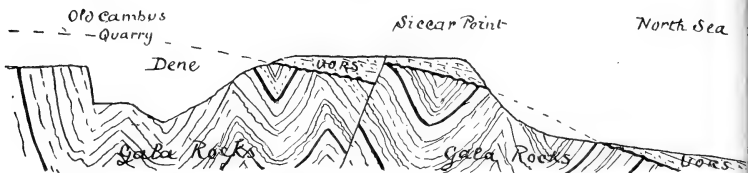


Fig. 1.—Section through Old Cambus Quarry to the Siccac Point.

The members of the Club, after leaving the Annelid quarry, gradually wended their way through one of these denes, and then turned in the direction of the coast line, and climbed the bank which forms the cliff at the Siccac Point—"The Mecca of Geologists" as it has been termed. Before making the descent from the top of the cliff, a brief outline was given of the geological features to be seen on the south side of the Swallow Cave. On the left, looking seaward, was the Upper Old Red Sandstone lying upon the Silurian Rocks; next to this is a small fault which has a down-throw to the south, so that the Old Red Sandstone is let down, and thence occupies the shore southward for some distance. The writer of this note has found scales of *Holoptychius nobilissimus*, one of the preeminently characteristic fossil fishes of the Upper Old Red Sandstone, in the red sandstones on the foreshore here. They have been found, of course, by other geologists on various occasions, at and near the same spot. The remains of another characteristic fossil fish—peculiar to this district, so far as is yet known—may be looked for here with a reasonable prospect of finding them, seeing that they occur at several other localities in the Merse. This is *Bothriolepis obesa*, a strange extinct form of fish allied to *Pterichthys*.

Reaching the top of the cliffs, above the chief object of the day's excursion, the party slowly and cautiously made their way by a zig-zag path to the foot of the cliff, where the leader called attention to the outstanding features, and afterwards gave a more detailed account of the matters of interest, of which the following may be taken as a report.

(II.) THE SICCAR POINT.

First, as regards the facts. Standing on the bare rock just at the foot of the cliff, and looking seaward, we see before us a kind of rough gravel pavement, sloping gently towards the sea. Here and there the pavement has been worn through by the action of the sea and the weather, and patches of rock of quite a different kind appear through the openings thus made. These latter rocks are clearly quite on edge, and it is equally clear that the "gravel" just referred to lies across the ends of these upturned rocks. To determine the ages of the two recourse must be had to a special mode of investigation, made use of by geologists. This is based upon the principle that certain forms of life lived at certain definite periods of the Earth's history, and neither before those times nor after. In some cases, as in the case of the three graptolites mentioned a few sentences above, the evidence is very precise and exact, and is implicitly trusted by geologists of all shades of opinion. If, therefore, we desire to know the age of the oldest rocks seen beneath the "gravel" at the Siccar Point we must search these rocks for fossils, and see what can be learnt from them. This has been done. I have myself got out one or two graptolites of the species given in the foregoing lists as having been obtained from Old Cambus quarry; and other geologists have done the same on many former occasions.* We may, therefore, take it for granted that the older strata underlying the "gravel" at the Siccar Point are really the Gala Rocks, and are the equivalent in time of certain other rocks known to occur elsewhere.

This being the case, the next point to consider is whether these particular Gala Rocks were ever covered by other strata. A vast mass of evidence points to the conclusion that they have been so covered. In the English Lake District the thickness of the Silurian strata left there now—and the highest beds have gone—above the same geological horizon

*In these remarks I wish to make use of evidence for which I can myself vouch, rather than base what is said upon the work of others.

as these beds at Siccar Point, amounts to about twelve thousand feet. In Scotland it is impossible to say what the thickness may have been, because the strata are everywhere so much crumpled and disturbed that no reliable estimate can be arrived at. But, whatever it really is, I cannot avoid concluding that the thickness must amount to several thousands of feet. In the Geological Survey Memoir the table on p. 79 seems to me to give too small a thickness to the Ludlow Rocks in the Pentland Hills; and the same remark applies to the Wenlock Rocks of the Central and Southern Belts. This (as I consider it) underestimate does not, however, in any way affect the estimated thickness of the rocks on this horizon in the Lake District. As stated above, there is at least twelve thousand feet of Silurian rocks in that area, counting upwards from the horizon represented by the Gala Rocks of the south of Scotland. Nobody questions the correlation of either the uppermost or the lowermost strata, when the rocks of the two areas are concerned; and it follows, therefore, that if the top beds in either area were formed at the same time as those in the other, and if this is true also of the beds at the bottom, it is clear that the rocks between these two platforms must, as a whole, have also been formed contemporaneously with each other. In other words, the one must have taken just as long to form as the other.

Assuming that this argument is admitted as just, we may briefly notice the history of the Silurian Rocks as a whole, seeing that an understanding of the facts forms an essential feature in part of what is to follow.

The Silurian rocks represent an accumulation of old sediments—mud, sand, loam, and silt—which were originally part of the rocks of some old continental area. Rain, rivers, and subaerial waste renewed, gradually transferred these old materials from the land, where they previously existed in the solidified state, to the sea bottom, where, as the land slowly subsided, they were gradually spread out far and wide. The series, almost from top to bottom, shows evidence of quiet and slow accumulation, and I hardly hesitate to make the statement that every foot of even the greywackè—which represents the coarser materials—may well have taken several thousand years to form.

The subsidence went on, perhaps intermittently, until, in the English Lake District, what had been the shore line at the commencement had been carried nearer to the centre of the Earth by some twelve or more thousand feet.

Then, as we learn from the Scottish records, which are much clearer upon this point than the evidence obtained elsewhere, oscillations of level began to set in, and eventually the net results of the movements assumed an upward tendency. Continental conditions began to take the place of oceanic, and in course of time the elevation of the old sea bottom extended so far that the rainfall of these parts was reduced to so much below that required for the needs of vegetation that desert conditions set in, and it is probable that they remained here for a period of great length.

It was under these conditions that the red strata which succeed the Ludlow Rocks were found. I have called these the Lanarkian Rocks, because what remains of them is best seen in Lanarkshire. In the Survey Memoir they are referred to as Downtonian—a term, by the way, which had previously been used for the Middle and Upper Ludlow Rocks.

The upheaval of the old sea bottom gave rise to two important effects, both of which can be realised by a simple experiment which the reader is recommended to try for himself. Get a few strips of linoleum, or some leathern straps, or any other similarly flexible material of moderate thickness. Mark the edges of every other strap some distinctive colour—chalks will answer the purpose very well. Then lay the straps one upon another, lengthways, upon any smooth surface, such as the polished top of a table. Put a weight upon one end of the pile, and then grip the other end and press it towards the weight. The effect will be that the straps will be thrown first of all into an upfold of a simple character; but if the pressure is managed carefully it will be quite easy to make the straps fold so that there shall be more than one or two bends. If the process of lateral compression is continued, the folds will become more and more compressed, and the upper surface of the pile will rise concurrently to successively higher points above the level of the table. Note, further, that the rise will be greater over the upfolds than over the correlative downfolds between them.

This little experiment seems almost too trivial a matter to make more than the very briefest reference to. Yet the same principle which has regulated both the outward form of the pile, and the shape assumed by its component straps, has been in action again and again at many periods of the Earth's history in giving rise to both the convolutions of strata and the concurrent upheaval of great mountain masses. For the straps substitute piles of rock; for the compressing force exerted by the hands think of the powerful forces that give rise to the upheaval of continents and the correlative depression of the floor beneath the oceans; for the few minutes that the experiment has taken to perform substitute in the mind many millions of years; for the tiny folds of the leathern straps conceive of great convolutions affecting large areas of country; and for the vertical displacement of the pile of straps undergoing compression substitute great upland areas, hundreds of square miles in extent. There is one point, however, where the parallel does not hold good. In nature, as the upward fold progresses and the central area is more and more raised, atmospheric forces, rain, rivers, and glaciers, split up and waste the newly elevated rocks at a rate proportionate to the degree of elevation; so that it often happens that the upheaving force and the rate of waste of the newly-elevated land so nearly balance each other that the compressing force does not always result in much, or at all, increasing the elevation. If the experiment with the straps be repeated with this idea in mind, it will be noticed that the crumpling of the inner parts of the lower straps is more marked than it is in the case of the outer. This is another way of stating the fact that the core of a region undergoing upheaval will show much more intense crumpling than the parts which are the earlier to reach the surface. As the waste over the axis of upheaval proceeds, strata of an increasingly crumpled and disturbed nature tend more and more to the surface.

The crumpling force, therefore, accomplishes three results. It folds the strata, it causes inequalities of level at the surface, and it places rocks over the zones of uprise under the most favourable conditions for rapid waste by subaerial agencies, and over the zones of downfolding it forms areas of

depression into which the materials worn off the upland areas sooner or later find their way, and thus give rise to newer sets of strata.

Reasoning back from effects to causes, we may assert with confidence that where we meet with highly convoluted rocks like those, for example, which are so magnificently displayed on the Berwickshire coast between St. Abbs and the Siccar Point, those convolutions bear witness to the former existence of great terrestrial thrusts which were exerted in directions perpendicular to the axes of the folds; they tell of enormous upheavals over that spot—for no such crumpling is possible except under the pressure of a stupendous pile of overlying strata; lastly, as these latter are wanting, their absence points to waste and destruction on a most extensive scale. At what rate that waste may have gone on it is not easy to say. Dr Croll and others have collected evidence to show that at the present day the rate, taking the world all over, may be set at an average of about one foot in six thousand years. Doubtless the rate would be much higher than that in upland tracts, and one might, in allowing for that possibility, set the rate at half that, so as to keep well within the mark.

Now the next step in the argument, admitting that the foregoing reasoning is sound, is to determine at what period the waste in question took place. This is easily settled, because the volcanic and associated rocks which form the Cheviots and the Pentland Hills lie quite undisturbed across the ends of the highly convoluted Silurian and older strata. The crumpling of the rocks, the formation of the continental masses, and the subsequent waste of the land so formed must, therefore, have all taken place in the interval between the close of the highest (or Lanarkian Rocks) and the commencement of the conditions to which the succeeding strata are due. There is no escaping this conclusion. Moreover, it can be shown that the waste which ended in the interval of time between the close of the Silurian Period and the commencement of the next, which we will call the Devonian Period, was of sufficient length to permit of the removal of a vast thickness of the rocks older than the Silurians (the Ordovician and older rocks) as well. The evidence upon that point also does not admit of a doubt.

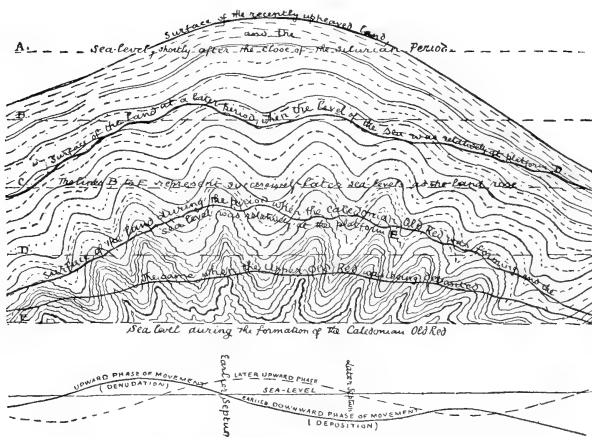


Fig. 2.—Diagram to illustrate the successive stages in the crumpling and upheaval of the Silurian and Ordovician Rocks.

Let us, so to speak, take stock at this point, with especial reference to the interval represented by the events that happened after the Gala Rocks of Siccar Point were formed, and before the rocks of St. Abbs Head, the Cheviots, and the Pentlands and Ochils began to be formed.

In the Lake District, as already stated more than once, twelve thousand feet of old sediments overlie the horizon of the Gala Rocks. Assuming, for argument, that those at the Siccar Point are at the very top of the Gala Rocks—which is by no means the case in reality—we have to account for the time required to accumulate the thickness known to have accumulated in the area referred to. Now it is quite true that we have no very definite data to go upon in this case. All we can do is to assume that the materials of which these rocks were formed were derived from the waste of an ancient land, where they wasted at, say, the rate of one foot in three thousand years (which is much in excess of the average),

and that the rivers which transported these materials seaward spread the wasted material out over an area equal to that whence the material was derived. Taking this area as a whole, therefore, on this supposition, each foot of the strata, averaging the whole from top to bottom, required three thousand years to form. It is certainly not very safe to make calculations based upon data which at the best can hardly be regarded as satisfactory when taken alone, and without some confirmatory evidence. But it happens that the Silurian Rocks are fossiliferous almost throughout, and a careful study of their fossils assures us that so many changes in the marine life of the period ensued in the time in question that one cannot help feeling that the $3000 \text{ years} \times 12,000$ (the thickness in feet), thirty six millions of years is quite inadequate to account for the many changes in the organic world that ensued. During the last three millions of years hardly any changes have taken place in the plants or animals of western Europe, except in the case of the larger mammalia.* If we take this, as most biologists would do, as any guide to the rate of change in the organic world in past times, what are we to say regarding the extensive and important changes in even the lower forms of life which ensued during the Silurian Period? I shall, therefore, set the interval of time in question at 36,000,000 years.

Next we have to take into account the time implied by the crumpling, upheaval, and subsequent waste, none of which commenced until the last of the Silurian Rocks (and perhaps also the Lanarkian rocks as well) had been formed. The only data we have, which we can use for this, are those relating to the rate of waste. Now, in this case, seeing that there is some difference of opinion between my colleagues and me with regard to the thickness of the Silurian Rocks of the South of Scotland, I do not feel justified in asking others to accept my estimate of that thickness in dealing with a question like this. I will, therefore, base that estimate upon the assumption that the thickness of Silurian Rocks which formerly overlay the Gala Rocks of the Siccar Point was four

* See Goodchild, *Origin of the British Flora*, *Proc. Bot. Soc. Edin.* (1902.)

thousand feet instead of the much greater thickness I should myself assign to them. To this four thousand feet must be added the thickness of other rocks older than those seen at the Siccar Point, known to have been removed elsewhere in the south of Scotland at the time in question. This fully doubles the amount. So the amount of denudation during the period in question will be 8000×3000 , i.e., 24,000,000; which, on this computation, is the interval of time that elapsed from the date when the Gala Rocks of the Siccar Point were formed down to the time when the crumpling and denudation had ceased, and the rocks of Devonian age, represented by the rocks of the Cheviots and St. Abbs, began to be deposited.

The interval of time next to be considered must also be one of enormous length. Not only have we to take into account the time required for the growth of enormous piles of sediment and the gradual evolution of very large volcanoes, but we have again to bear in mind the extensive and important changes in the organic world which ensued in the interval. I will not now enter into detail, but simply state that the changes which ensued during this Devonian period seem to me to require for their accomplishment not less than 100,000,000 years.

We have not done with the tale yet:—After the period in question was ended there ensued another long interval during which, over large areas in the south of Scotland and also elsewhere, the whole of the previously formed volcanic and associated strata of Devonian age were wasted away. Nobody knows what that thickness was in the south of Scotland. But elsewhere it can be shown that many thousands of feet of rock were denuded before the next rock, the Upper Old Red Sandstone, began to be formed. If we take the thickness known to have been removed in the interval in question in the Pentland Hills (where, by the way, it is much less than elsewhere), and set it at six thousand feet, which is the interval between the highest geological horizon and the lowest upon which the Upper Old Red Sandstone lies, there we shall be well within the mark. 6000×3000 amounts to 18,000,000 years.

This brings us back to the section at the Siccar Point. There we have Upper Old Red Sandstone lying in an almost

undisturbed position upon highly contorted and probably reversed rocks of Gala Age. The events which happened in the interval between the time when the one was formed and that when the other first came into existence in its present position, relatively to the unconformable rocks below, may be stated as follows:—

	Time in years.
Interval between the Caledonian Old Red and the Upper	18,000,000
Time required for the formation of the Caledonian and Orcadian Old Reds	100,000,000
Post Silurian denudation of older date than the last	24,000,000
Formation of Silurian (and Lanarkian) Rocks of newer date than the Gala Rocks	36,000,000
Total chronological value of the uncon- formity at the Siccar Point—in years	178,000,000

This is only one of many great unconformities of which the geologist is cognizant. If, therefore, I state that the Upper Old Red Sandstone of the Siccar Point is itself a rock of high antiquity, dating back to more than four hundred millions of years from our own times, the reader may be less disposed to be incredulous than if I had stated these figures at the outset.

In concluding this section I will only ask the reader to remember this:—Geology is quite a modern science, recording facts and ideas which are novel to even the educated men of to-day. Astronomy is a science of great antiquity as such. The astronomers' estimates of celestial distances were for hundreds of years regarded as so much at variance with the views current amongst thoughtful men that it took long before such a statement as, let us say, the distance in miles of the Sun from the Earth was fully realised or admitted to be correct. Still more time was required before people would admit that the astronomers' estimate of the distance of Alpha Centauri, the nearest Star, was true to the facts.

But when a geologist asks men of science, who do not happen to be cognizant of the facts with which his own studies make him familiar, to accept his statement that the Earth is much older than they have been accustomed to think, they turn aside with a smile, and ignore his remarks, as the men of old did those of the astronomers. We, too, can smile, and wait.

(III.) THE ROCKS ON THE SHORE BETWEEN THE SICCAR POINT
AND COVE.

After returning to the top of the cliff, the party wended their way northward for some distance, and then descended to the shore to examine the higher members of the Upper Old Red Sandstone. These are (as it happens) both sandstones, and of a red colour. The red colouring matter is due to the presence of a film of red oxide of iron—probably the mineral Turgite, though in some cases it may be the pure anhydrous ferric oxide Hæmatite. The iron coats the surface of the grains of sand. It has been shown by Mr Hudleston and others (including the present writer*) to be due to the formation of these rocks under conditions of aridity, when little or no organic matter found its way into the few shallow saline lakes or Schatts in which part of the Upper Old Red Sandstone of this part was formed. Many of the sandstones are composed of well rounded grains of sand, identical in character with the desert sands of to-day, and, like them, showing the rounded form and polished surface which they have acquired through prolonged drifting by the action of the wind. Part of the Upper Old Red here may be confidently referred to an origin similar to that of the sand hills of the modern deserts.

Some of the grains of sand show beautiful examples of what is called "secondary quartz." Weak solutions of silica have percolated through the rocks, and the silica has thus been redeposited almost wherever it encountered a clean surface

* See "Desert Conditions in Great Britain."—*Trans. Edin. Geol. Soc.*, Vol. VII., pp. 203-222.

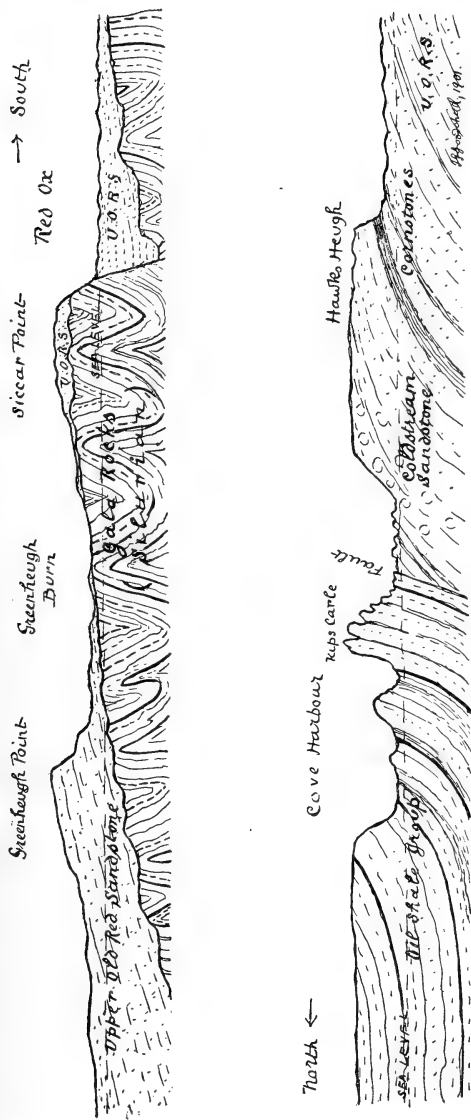


Fig. 3.—Section from North of Cove, parallel to the coast line, to the coast south of the Siccar Point.

on a grain of sand. The result has been to redevelop a crystalline outline on grains of quartz which, perhaps, had the very same form before it was worn off by prolonged attrition. The remarkable feature about the secondary quartz is the fact that in many cases the new quartz is deposited upon the old in exact accordance with the molecular structure of the original. As Professor Judd has pointed out in referring to this interesting fact, the crystalline materials seem to possess what one is almost tempted to call a certain amount of vitality, so far as reparative powers are concerned. And it matters not how long a time elapses between an injury to a crystal, resulting in the obliteration of its proper form, and the time when that form is again developed. Half the events in the geological history of the Earth may have happened in the interval, and yet the process is completed just as perfectly as at first. We owe it mainly to the researches of Mr Sorby that our attention has been called to these points. Some of his first studied specimens came from the locality where the leader of the party described the facts.

Near the top of the Upper Old Red Sandstone there usually occurs a record of a change in the climatal conditions that set in about the time when this section of the rock was formed. It usually consists of a sandstone, less brightly coloured than that below, and full of nodules, flakes, and concretions, of calcareous matter. These are the Cornstones.

In those districts where the succession from the Old Red to the Carboniferous is complete, there is usually a considerable thickness of shales and clays containing nodules and bands of impure argillaceous limestone. These beds are the Ballagan Beds, otherwise known as the Cement Stones, or as the Lower Tuedian. They are the Scottish representatives of what have long been called in other parts of the kingdom the Lower Limestone Shales. They are of great thickness in the Tweed Valley, and also in the Border country to the west. Around Edinburgh they are fully twelve hundred feet in thickness, and the volcanic rocks of Arthur Seat and the Calton Hill occur in their middle part. But they are locally absent in Fife, where the Oil Shale series lies directly upon the Upper Old Red owing to deposition having taken place there against a sloping bank, consisting of the Upper Old Red Sandstone.

South of Cove the Cornstones are almost immediately succeeded by a thick mass of sandstone, also more or less calcareous in character. Close to Cove Harbour this diffused calcareous matter has segregated out, and has given rise to some very remarkable spheroidal concretions, which, in a few cases, are as much as a yard in diameter. Captain Norman seems to have been the first to call attention to these great natural stone balls. As regards the position of the rock in which they occur, it is not yet safe to hazard an opinion; but as that part of the coast is soon to be re-examined by the Geological Survey, by the light thrown upon the succession of the Lower Carboniferous rock of the Berwickshire coast by Mr Gunn, the question whether these sandstones are part of the Cornstones, or whether they belong to the Fell Sandstone—the Ballagan Beds being nearly absent—will probably be answered to the general satisfaction of geologists.*

For the rest of the section at Cove see Mr Gunn's paper in the Transactions of the Club, read at the Berwick Meeting, 13th. October 1898 (Vol. xvi., pp. 313-316.)

* Note added, January 1904. Since this was written Mr Clough, of the Geological Survey, has resurveyed this part of the coast, and has shown that the sandstone in question belongs to the lower part of the Ballagan Beds. He has also proved the existence of the large fault near Cove, to which the present writer drew attention at the time of the Club's excursion. See the section appended, which is a copy of the one used on that occasion.

PEEBLES, INCLUDING LYNE, STOBO, AND DAWYCK.

THIS, THE THIRD MEETING of 1902, was held on Thursday, July 24th, and on that morning, or overnight, there assembled at Peebles those members and friends whose names here follow. But the President of the Club, Sir Archibald Buchan-Hepburn, was unable to join us. He sent, however, a telegram from Sweden wishing the company a pleasant meeting. In his absence Mr T. Craig Brown, himself a former President of the Club, acted for him during the day's proceedings. Present were:—Mr T. Craig Brown, Woodburn, Selkirk, ex-President; Mr George Grey Butler, Ewart Park, Editing Secretary; Captain F. M. Norman, R.N., Berwick, Organizing Secretary; Mr Robert Brown, Duns; Rev. J. R. Cruickshank, B.D., Manse of Stobo; Mr Isaac Craik, Glasgow; Mr J. Graham Crawford, Limekilns; Captain Forbes, R.N., and Miss Forbes, Berwick, and Miss Monson; Mr George Fortune, Duns; Mr Arthur Giles, Edinburgh; Mr J. G. Goodchild, F.G.S., Edinburgh; Dr Clement B. Gunn, Peebles; Mr W. Maddan, Berwick; Rev. the Hon. S. G. W. Maitland, Thirlestane Castle; Rev. Thomas Martin, M.A., Lauder; Mr James Marr, M.B., Greenlaw; Mr James A. Milne; Mr J. L. Newbiggin, Alnwick; Mr Henry Paton and Miss Paton, Edinburgh; Rev. James Primrose; Mr Thomas Ross, Edinburgh; Mr J. Smeall, Jedburgh; Mr James A. Somervail, Broomdykes; Mr D. Mcß. Watson, Hawick; Mr Hugh Weir, Glasgow; and Mr Joseph Wilson, Duns.

Our fellow member, Dr David Christison, of Edinburgh, Secretary of the Society of Antiquaries of Scotland, who was to have given us a short explanatory address at the old Roman Camp at Lyne, was unluckily prevented from coming to this meeting, and his place was taken by Mr Ross when we reached that point in the day's doings.

We started westward from Peebles, in two brakes and a landau, at half-past nine in the morning, the weather cool, clouds grey and high, and showers possible. On our right we passed the solitary old square church tower, well pointed and finished with red stone, all that remains of the church

of St. Andrew, built in 1171, dedicated to its patron saint in 1195, ruined in the course of the 17th century.

Leaving the outskirts of Peebles, we drive westward upon a fairly level road with a steep incline on our left hand, till a view is disclosed which for a brief moment carries the thoughts to other lands. Have we come upon a scene in Rhineland or the Tyrol, or something pictured in *Anne of Geierstein*, a grim grey fortress standing on a cliff above a winding river? There is but little in common between mediæval Germany and Tweedside, except perhaps here. We are faced by Neidpath Castle, standing proudly where the crescent curve of the water runs between steep wooded banks, a square mass looking upstream and downstream, and dominating the opposite wood-clad bluff, through which the modern railway has been forced to tunnel. [A good view of this scene is given in one of our earlier volumes, 1886, p. 362.] Some large and fine old yew trees are seen upon the hither bank as we draw nearer.

The approach to the castle is now a grassy path, but was formerly a fine avenue of trees, which opened upon the public road at the point where Jedderfield road branches off, and this spot still goes by the name of the "White Yett" among the fathers of the burgh. Jedderfield road in those days was the main road, ascending the face of the hill and descending again two miles further on. The present direct road past the castle was constructed about 1697. The ancient garden of the castle lies to the north, above the road, and the once beautiful terraces slope toward the south. The destruction of the fine old trees in 1795 by the then Duke of Queensberry is deplored by Wordsworth in a well-known sonnet. Above the gate of the castle formerly existed a window of out-look, at which the dying maid of Neidpath vainly watched for her lover's recognition, as touchingly related in verse by Scott, and also by Campbell. The ancient doorway and turnpike are on the south side, and are part of the ancient peel now in ruins. About 1410 the newer addition was built on the east side, converting the gaunt tall tower into a mansion. About 1660 the new entrance on the east side was formed, and also a handsome staircase excavated out of 11 feet of wall. An iron ring still remains

in position above one of the windows of an apartment termed the "Sheriff's Room"; through this ran a rope and noose, for executing judgments upon culprits. The castle belonged in the 17th century to the Lords Yester, earls of Tweeddale, but in 1686 the Neidpath estate and castle were sold to the Duke of Queensberry, and in 1795 the property came into possession of the Earl of Wemyss. The old spelling of the name, which probably indicates its pronunciation at that date, is "Needpetth," as given in Pont's map of Tvedia contained in Blaeu's atlas of 1654.

Then we follow the winding Tweed on its north bank till we come to the confluence where the Manor Water joins it on its southern shore, and a pretty road-bridge crosses the water. The Manor Valley, opening a view into the Silurian uplands to the southward, affords a gently ascending road to the St. Mary's Loch, invisible to us, which lies among the higher hills beyond. At the north-west angle of the opening made by the Manor Water, high up on the south bank of the Tweed, is Dr Caverhill's sanatorium, consisting of farm buildings converted to healing purposes. Lower down stands an old substantial farm house, belonging to the Earl of Wemyss; French in character of building, with its high pitched roof, British in its environment of stately trees, dispersed in park-like fashion, and Tweed flowing round it on the northern side. Then, as we drive, comes a bend in the river with a little rocky islet and big Scotch firs upon it; while on the north bank of Tweed, between road and river, extends a flat haugh, crossed at its further end by a railway bridge across the Lyne, where this river's valley opens out wider at its junction with the Tweed. Passing an old toll-house, the second this day, we cross the Meldon Burn, which descends on our right from a reservoir two miles away, and see river terraces, thirty or forty feet high, above the present valley, on each side of the Lyne water; the terrace on the south side being, in fact, the edge of Sheriff Muir. Then Lyne itself comes in view, nestling at the foot of a grass-clad hill, its church crowning a knoll upon our right. In the churchyard we note a tombstone bearing the inscription, "Here lies Robert Wales, surgeon of the 68th Regiment of Foot, son of the late Mr Lancelot

Wales, rector of the Grammar School of Kelso, who died the 9th day of February 1793." And now we climb a grassy slope beyond the church and reach the camp, which, forming the centre of one of the finest hill landscapes in Scotland, covers a small plateau of some twelve or thirteen acres; and here we listen to the most interesting account of it which Mr Thomas Ross, of Edinburgh, so kindly came to give us.

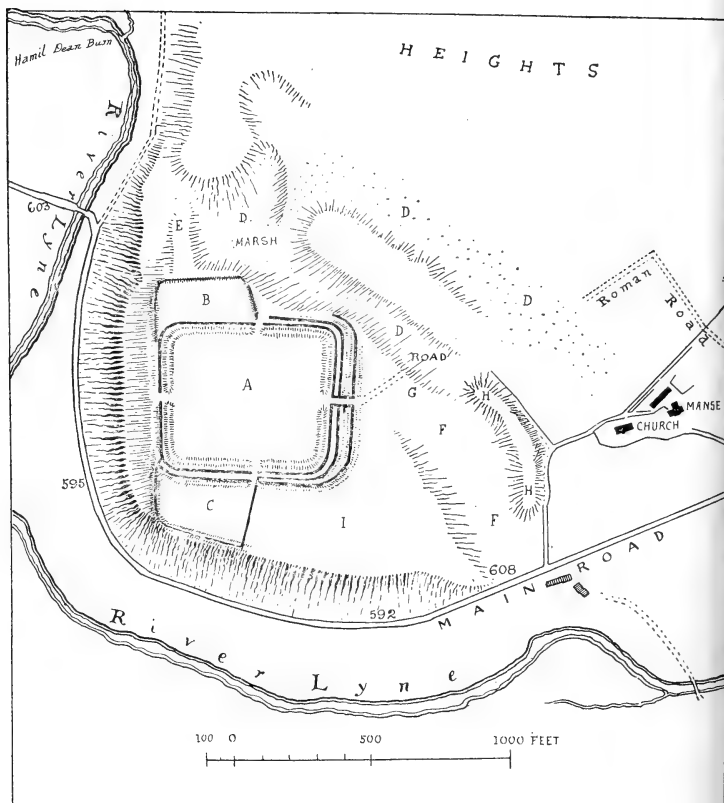
Roman Camp at Lyne.

Its position, buried as it is among the lofty Peeblesshire hills, seems at first sight inexplicable, but the key is probably to be found in the fact that it commands the valley or path of communication connecting the two highways or routes by which invading armies have always entered Scotland, the one on the east by Berwick and the Lothians, and the other on the west by Carlisle and Lanarkshire. This valley is thus a link connecting the two main routes of armies penetrating northwards into Scotland. It is a fair inference, therefore, that the object of the Romans was to protect this important connection; and it is noteworthy that these connecting roads, although running through a hill country, encounter no high pass, and have such easy gradients that they are favourite cycling routes at the present day. Excavations were recently made, in the autumn of 1900, with the definite purpose of settling the vexed question whether Lyne was really a Roman Camp at all, no relics of undoubted Roman origin having been discovered there previously.

The camp lies four miles due west of Peebles, and 300 yards west of Lyne Kirk, 700 feet above the sea, upon a plateau 100 feet above Lyne water, which is separated from the steep western and southern flanks of the plateau by a haugh or river-flat, not exceeding 100 yards in width. [See plan.] On the opposite side of the river the bank rises at once very steeply, and is so high that the station is commanded from the gentle hill slopes beyond, but at too great a distance to be annoyed by primitive missiles.

The site was admirably chosen for its natural strength. The south and west sides were amply protected by the steep

NORTH



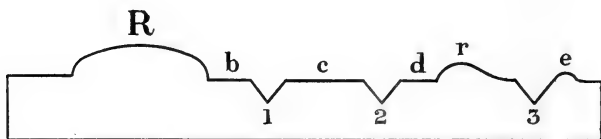
Plan of the Roman Camp at Lyne, Peeblesshire.

ascents from the river. The north side was rendered almost equally strong by a morass (DD) in a hollow now drained, which formerly covered the whole front, except a small portion at the west end, where a narrow neck (E), level with the plateau, connected it along the top of the bank with the hills beyond. This approach was far too narrow to permit of a serious attack, as the assailants would be hemmed in between the steep bank and the morass. On the east front the ground, although easier, was by no means unfavourable to the defence. The southward trend of the morass contracted the width of the access from the east, and the ground fell away from the plateau in a hollow (F), which, bending southward between the plateau and the "moraine" (H), opened on the haugh of the river. Thus the only level approach from the east was by a narrow space (G) between this hollow and the morass. The "moraine" (H) 100 yards distant, and quite detached, may have been used as an outlying defence, but no doubt, if taken by an enemy, would be a source of weakness to the garrison. It will be seen how skilfully the fortifications were designed, for the trenches, marked by dark lines on the plan, are the most important features in the defence.

Before the recent excavations, almost the only fortifications visible were the remains of the rectangular work (A), set with its back on the western edge of the plateau; but it did not occupy the whole width of the plateau, and thus two strips of level ground, one on the north (B), the other on the south (C, I), were left, upon which an enemy attacking in force might effect a lodgment. The excavations proved, however, as was to be expected, that the Romans had not been unmindful of this risk, and had provided against it by constructing the two wings or annexes (B, C) at the west end of the plateau, thus occupying its full width at that end. The north annex took in practically the whole of the level ground on that side, and although the south annex occupied only a part of the level ground on its side, it flanked (I) the remaining part.

On the strong side of the main work, that is the east, Mr Ross showed us charts, one of which gave a section of that part of the ground on which we were at the moment

standing, the north-east corner. This drawing showed that, after clearing away debris, the defences consisted here of an inner and outer rampart and three ditches. The inner ditch and great rampart go right round the camp, the middle ditch goes round the outside of the annexes. From the bottom of the ditch to the top of the main rampart, on the strong side of the camp, was 20 feet vertically.



These are shown in this diagram, consisting of:—

R—The main rampart, 32 feet wide.

b—The berm of this rampart, 8 feet wide.

c—A terrace, 18 feet wide.

d—A second terrace at the same level as c, 12 feet wide, and carrying

r—A small outer rampart, 20 feet wide.

e—A mound, forming counterscarp of the outer trench.

1, 2, 3—The three trenches or ditches, the outer and deepest, No. 3, being 8 feet in depth.

Total width, 140 feet.

It was at the north-east angle of the rectangular work (A) that Mr Ross unfolded his large plans, and explained them to us as they lay upon the grass at our feet. We then visited the “northern annex” (B), which protects the main work by covering the western portion of its north front, the eastern portion being naturally defended by the marsh (D). We then walked along the grassy rampart of the west front, here consisting of a high bank, which slopes from the rampart at first moderately and then very steeply down to the Lyne water haugh, and forms an extremely effective natural defence. Turning the next corner, at the S.W. angle of the main work, we came to the “southern annex”

(C), which, while covering the western portion of the south front, so far as to include the southern gateway entrance, also flanked the other half where exposed to attack from the open ground (I).

There were four entrances to the main work (A), nearly in the centre of each front, the Porta Prætoria on the east, Porta Decumana on the west, Porta Sinistra on the north, Porta Dextra on the south.

The first two were in the line of the Via Prætoria, the two latter of the Via Principalis.

The remains of four stone buildings, two of them heavily buttressed, were discovered along the east side of the Via Principalis; one of which was presumably the Prætorium, separated from one of its neighbours by a street paved with cobblestones. In the centre of the most southerly of these buildings was found a remarkable stone lined pit, 10 feet deep, constructed of excellent coursed red sandstone masonry, with no trace of cement, the bottom flagged with flat stones bedded in clay. In this were found an iron spear-head and several pieces of pottery. The relics discovered clearly indicate a Roman occupation, and they include fragments of bowls of Samian ware, black and grey ware, amphoræ, and tiles; fragments of window glass, and of square bottles of blue glass of the usual Roman type, and the upper part of a very pretty beaker of thin, transparent glass; also iron nails with large heads, and the spike 4 or 5 inches long; two iron spear-heads, one barbed and with a shank, the other leaf-shaped and unbarbed; and, lastly, two coins, one of Trajan and one of Vespasian.

On the lower slopes, beneath the plateau, we found prevalent a luxuriant yellow toadflax (*Linaria vulgaris*), which covered the knowe near the smithy, at the foot of the plateau.

Entering the carriages again, we took the road which is fenced on either side by the celebrated Stobo hedges, whose antiquity is to be judged from this:—that so far back as 1695, Dr Pennecuik remarked that the hedges were old and high, and caused much grumbling from those who passed between them. The *Berberis vulgaris*, or native wild barberry of Great Britain, known by its trifid spines, is one constituent

of the Stobo hedges, and hornbeam is another. An old beech tree, called by children the "Queen of Stobo," we saw on the right side of the road, bound together by iron chains to support its aged trunk and limbs. We passed, too, the apex of Sheriff Muir, where wapenshaws used to be held so late as the end of the 18th century; and on our right hand was Easter Haprew, the birth place of David Ritchie, the Black Dwarf of Sir Walter Scott's story, who established himself in a stone-built cabin on a wild moorland within the lands of the late Sir James Naesmith.

We visited the Norman Church of Stobo, dating from 1175. It has three Norman-arched doors, two of which have been filled up. The tower was perhaps built at the time of the Reformation by Priest Colquhoun, who outwardly conformed with Reformation principles, but secretly hid his friends of the old religion in the upper storey of the tower. Outside the door is an iron ring for scolding wives; the door posts (of sandstone) are scored and worn, as though by children sharpening their knives or parishioners their arrows.

There are two fine Norman windows on the north side of the chancel: the window on the south side consists of a single slab of stone, perforated with four narrow light openings, and above these some smaller ones of lozenge shape, giving the complete tracery without a single jointing in the stone. There is here the tomb of a soldier—a highlander—who died returning from "the '45," an old stone with the figure of a man in bonnet, kilt, and large musket. The highland army passed this way on their return.

Driving on past Stobo Castle, through the policy and woods, we open out a view of Drummelzier Haugh, evidently the site of an ancient lake. We have on the left of the road, coming down to the Tweed, an altar stone placed where Kentigern and Merlin met. In the distance is Tintock Tap, a bleak hill summit, of which the rhyme says:—

"Be your lassie ne'er so black,
Gin she hae the name o' siller,
Set her ap on Tintock Tap,
The wind will blaw a laddie till her,"

Then we reached the house of Dalwick,* standing in its park near the bank of Tweed, at the foot of steep tree-clad slopes on its east and south sides. A short account of the history of Dalwick (or "Dawyck") will be found, given by Dr Hardy, in the Club's Transactions for 1886, page 382. The following brief note may be added here.

Dalwick House.

A modern castellated mansion on N.E. corner of Drummelzier Park; held by the Veitches from the 13th to the close of the 17th century. The estate then passed to the lawyer, James Naesmyth (died 1706), who was known as the Deil o' Dawick. His grandson and namesake, the 2nd baronet (succeeded 1770, died 1779), was Linnæus's pupil, who planted, in 1735, the Dawick avenue of silver firs and larch (1725.) On a knoll a short distance S.W. of the house stands the old church of Dalwick parish, suppressed 1742, which now serves as a family mausoleum.

The Naturalists—after lunch within the house, and an expression of thanks to Mrs Balfour, conveyed by Mr Craig Brown on their behalf—spent a pleasant hour roaming through the woods, with some guidance at times from the Dalwick gardener. He told us that the larches we saw, grand and venerable, were the oldest planted in Scotland, with the exception, possibly, of some of the Duke of Athol's. Linnæus was present, about the year 1735, when some of the conifers were planted. They were brought from Russia by the Naesmyth of that day, who was a friend of Linnæus, and had travelled with him in Scandinavian and other continental forests. We saw on the lawn beside the house a very well-grown oak, very large to be so far north, measuring $15\frac{1}{2}$ feet round the trunk. A little further off was a beech tree with an unusual "upright habit," trying as it were to imitate a poplar or a cypress in shape; and a similar unique growth of British oak was noticed close to Dalwick church.

* The name is variously spelt Dawick, Dawyck, and Dalwick. The last is the correct spelling, though the name is pronounced as a rhyme to Hawick.

Other tall beech trees in a grove have forced each other up to a great height upon the hillside to the east of the house. In their top branches we saw some herons' nests. There was a Spanish oak with slim straight stem and preternaturally large leaves, to judge by British oakleaf standards; a fine *Pinus nobilis*, and two *Abies albertiana*, together with another Spanish oak, which the gardener described as a "Turkey oak." The *Abies albertiana* is one of the Canadian "Hemlock Spruces." There were some *Abies grandis*, but not very vigorous; some *Douglas*, natives of Vancouver; and an *Abies Nordmanniana* of great height. Also a *Cupressus Nūtkāensis* (from Nootka Sound in Vancouver Island) of a drooping habit—a tree which is mentioned by Captain Cook. There was a Thuja-like *Librocedrus decurrens*, the Californian White Cedar, with red bark.

The chapel, upon the hillside, among the trees, is roofed with red slates from $\frac{1}{4}$ to $\frac{1}{2}$ an inch in thickness. An old font lies outside, octagonal in shape, the only relic of the old church, which stood where the chapel stands now, probably of earlier date than the 15th century. The belfry of this chapel is a copy of one of the 17th century at Fortingall.

Very fine bushes of *Spiraea ariefolia* were seen growing by the side of a brook of steep descent, where also are some real wild aspens, *Populus tremula*; also *Berberis vulgaris* (the Stobo hedge bush); and a *Polypodium vulgaris*, which drooped its pendent fronds from the fork of a plane 12 feet above the ground, on the sloping bank of the same little river. Lastly, a thorn that seemed to be a hybrid is identified by Captain Norman as *Crategus Azarolus*, "an old friend."

Dr Clement B. Gunn, of Peebles, accompanied the party the whole day through, and contributed much to the success of this meeting. His intimate local knowledge was most helpful, and freely given.

Dinner took place in the Commercial Hotel, Peebles, in the afternoon. Mr T. Craig Brown presided, and after the repast the usual toasts of the King, the Club, and the Lady Members were honoured.

Several new members were proposed for admission to the Club.

APPENDIX.

By Mr J. G. Goodchild.

Much of the beauty of the scenery around Peebles is connected with the nature of the rocks out of which the hills and valleys have been shaped. In considering the subject, however briefly, one must not lose sight of the very important fact that nearly the whole of the surface relief is the outcome of causes which are still in operation, and whose mode of working can, in most cases, be easily studied in detail on the spot. The hills have not been pushed up, as many persons have supposed has been the case, nor has volcanic action had much, if anything, to do with bringing any of them into their present form. Their real nature can best be comprehended by making the ascent of any one of the higher eminences of the district, on a clear day, when it is possible to see the summits of the hills around the point of view to a distance of a few miles. Anyone who will take the trouble to do this will see at once that the hill upon which he stands is really part of a great upland plain, which here falls a little below the general level, and there rises a little above it. The valleys, which look so deep and wide when one is travelling through them, look, from this position, what they really are—merely slight depressions which have been excavated out of the upland plain. The hills, it will be seen, are simply the parts of the plain which have not been carved into valleys.

As a matter of fact the agents which have been chiefly instrumental in carving the depressions within the upland area we are considering, are simply what are comprehensively spoken of as RAIN AND RIVERS. These have been aided to some extent by the work of ice; and the action of the whole has been largely regulated by the elevation or depression of the land, in relation to the sea level, by earth-movements. As for the work of the sea, we may dismiss that entirely from consideration when we are dealing with the evolution of the

surface features in a district like that under consideration. Likewise we may leave entirely out of account cataclysmal action, of any kind soever. Nothing else of importance besides the quiet and gentle action of subaerial forces has been concerned in removing the rock which formerly occupied the place where now are the valleys. All the material has been gradually removed from that area, and little by little, in the course of long ages, been transferred from the land to the sea, where it now lies spread out upon the sea bottom in the form of layers of mud, sand, and silt.

This statement about the valleys may be put into another form. We may picture to ourselves a time in their history when the present deep valleys had no existence, and when the rivers that have shaped them flowed at levels much nearer to those of the summit plain than they do now. And if it had been possible to record the successive stages in the shaping of the valleys, by inspecting the work at different periods, we should have found that at the end of each long interval of time the river had cut its way down a little deeper, and had widened its valley a little more, as time had gone on. And so, in the course of long ages, of which the whole of the historical period forms but a very small part, the depressions have been carved by rain and rivers into their present form.

The history of the summit plain calls for some fuller explanation; but this cannot well be given in a form that would be intelligible to those who are not versed in geological matters until an outline of the geological history of the district as a whole has been laid before the reader, which, accordingly, will be given here.

The oldest rocks in the district rise to the surface to the north of Peebles. They belong to the geological group known as the Ordovician rocks. The lowest of these consist of a group of volcanic rocks, of high geological antiquity, which appear to have been erupted beneath the sea. These are followed by some beds of what are now chert and jasper; but when these are carefully examined under the microscope they are seen to consist chiefly of some lowly marine organisms called Radiolaria, whence the deposit in question is called a radiolarian chert. The feature of interest in connection

with these lies in the fact that they agree in every respect with the radiolarian oozes of the deeper parts of the oceanic basins of to-day; and, doubtless, as most reasonable persons think, they were formed under the same conditions, and at *similar depths*. There is a little unwillingness on the part of a few people—mostly more or less backward as regards their education—to admit that any part of a continental area can ever have formed the floor of a deep ocean. Such, however, was the position of what is now Peebles during part of the older Ordovician times. It has undergone many ups and downs since then, but few of the subsequent events in its history are so fraught with interest to the student of ancient physical geography as the fact that an ancient deep sea deposit underlies much of the south of Scotland.

Other events followed the deep sea episode; but they do not much concern us in this connection.

The next event of importance that the study of the rocks has brought to light is the evidence of an extensive upheaval of the ocean floor, and a temporary conversion of some parts of it into land. The earlier formed rocks, including the lavas and the radiolarian chert, had been compacted into hard rock, upheaved, long exposed to the action of the waves, extensively worn thereby, and the pebbles resulting from the wear and tear were spread out so as to form another kind of rock, made of samples, so to speak, of all the different kinds of rock that occurred within the area affected by the upheaval. It is this very ancient beach gravel, now compacted into a hard band of stone, which forms the well-known "Haggis Rock" of Peebles and Lanarkshire, which is so much in request amongst geologists and other lovers of things interesting in connection with the remote past.

After the Haggis Rock was formed there ensued another period of subsidence, during which many events of great interest happened in the Lake District, Wales, and elsewhere; but those which occurred here are not of sufficient importance to be dwelt upon at any length now.

Another period of upheaval set in, followed, as before, by a prolonged period of subsidence. There is no need to enter into any great detail in regard to this. It will suffice to say that in the course of a great many millions of years a vast

thickness of mud, sand, loam, and silt was spread out in even layers far and wide, pile upon pile, over the sea bottom. It was the strata formed during this SILURIAN PERIOD which, after being consolidated and very much affected by later changes, subsequently saw the light as the great pile of convoluted greywackes and argillites out of which the Peeblesshire hills were at a later time to be carved.

The event of most importance that followed the formation of the rocks was their subsequent upheaval and crumpling, which the reader who is curious in such matters will find more fully described in a paper dealing with the Club's excursion to Old Cambus and the Siccar Point, to which I must refer for details of what followed; for the history of that part of Scotland coincides in almost every particular with the history of this, so far as this chapter is concerned.

Suffice it to say that after the Silurian rocks had been much crumpled and disturbed, and had undergone enormous denudations, first the Caledonian Old Red was laid down upon their edges; then these were wasted away and, afterwards, the Upper Old Red Sandstone, followed by a thick pile of Carboniferous rocks, took its place over the old surface formed of the Silurian rocks. Then the whole compound (so to speak) was folded, faulted, and denuded again. Next came the New Red Sandstone, which was spread out in very unequal thicknesses over nearly the whole of the south of Scotland, and was followed by the marine and widely distributed Jurassic rocks. These, in their turn, underwent denudation, and an extensive, and very even, plain was formed, upon which in later times the Cretaceous rocks were spread out.

It is, I think, this old pre-cretaceous floor, since upheaved and slightly bent, and then re-exposed by the removal of the rocks which formerly lay upon it, which forms the summit-plain of the Peeblesshire hills.

Now, it was long after the Cretaceous rocks were formed that the upheaval took place which lifted the plain upon which the Cretaceous rocks lay to something like the level, averaging something over 2000 feet above the Ordnance Datum, which this summit plain occupies at present.

I think that when the rivers of the district began to flow none of the rocks which at present form the hills were exposed.

Probably the Cretaceous rocks formed the surface strata. It was through these that the rivers slowly cut their way down to a lower level, until they came upon strata of different kinds. At this juncture some curious and perplexing changes in the physical geography of the district took place. In many cases the courses of the rivers were gradually changed, or their channels were modified in many different ways. It is as far back as 1881 that I gave a detailed account of the changes, induced by the varying degrees of destructibility of the strata, that the River Eden, in the north of England, underwent in consequence of meeting with similar conditions. I have some reason to think that the paper in question was the first in which the importance of these factors was pointed out.

The valleys had been shaped into very much their present form, and the general aspect of the country was much as it is now at the period (very far back in the past if we measure by the ordinary chronological standards) when the Age of Snow set in. The details of the waxing and waning of that remarkable set of events cannot be given here, even if they were needed. Suffice it for the present purpose to say that the land at the commencement of the Age of Snow stood much higher above the sea level than it does now. This was one of the reasons why it snowed in those days where it would rain now. The snow did not flow off the surface, as rain water does, but continued to accumulate until it began to find its way seaward in the form of moving masses of land ice. These, in time, increased in volume until they eventually attained in many parts of Scotland to a thickness of two or three thousand feet. Seeing that each thousand feet of thickness of such material presses upon each square foot of the rocky bed with a weight of over 25 tons; and seeing, further, that the ice was heavily charged in its lower parts with stones, mud, and sand, and that the period during which these conditions endured was, at the least, one of several hundred thousand years—one can hardly wonder that important modifications of the old surface features were brought about by these glacial conditions. As a matter of fact, most of the river valleys were both deepened and widened by the prolonged grinding by the ice; and the erosion effected in this way was

by no means uniform. In some parts of a valley the depression was deepened very much more than in some of the parts adjoining, in which respect glacial erosion differs essentially in its work from the eroding work of a river, for in this case the bed of a water course everywhere slopes more or less downhill and seawards.

About Peebles one of these cases of unequal erosion took place on a somewhat extensive scale. The whole of the valley for several miles above the river gorge on which Neidpath Castle is situated was scooped out by the ice to perhaps as much as a hundred feet lower than it was before; while at the gorge mentioned it is probable that the erosion was relatively small. In other words, while a great rock basin was being ground out by the ice above Neidpath, that part of the valley where the gorge is now was spared. So a great lake basin was formed, whose rock barrier extended from near the foot of the Manor Water to close upon Peebles itself. All the valleys above this, including the Lyne Water, were locally deepened and widened, more or less, by the same agency.

So it happened that when the Age of Snow was giving place to what one is almost justified in calling the Age of Rain, and the great masses of ice were melting away, extensive lakes gradually formed within each of the valleys. A large lake extended from far above Drummelzier to a mile or so below Dalwick. Another series of lakes occupied part of the Lyne. And the same may be said of other river courses near Peebles.

By degrees, however, two other sets of factors came into operation, both tending, as must always be the case, to reduce the lakes to the normal condition and replace them by rivers. One of these, in the present case, was the lowering of the bed of the river in what is now the gorge below Neidpath, which tapped the lakes and eventually drained them. The other was the steady inflow of sediment, by which the remaining water of the lakes was gradually replaced by silt, and alluvial haughs left in their stead.

Perhaps this explanation will give an answer to the question why there are so many high-level river terraces about Lyne Church.

LAUDER.

THE FOURTH MEETING of the year 1902 was held at Lauder, on Wednesday, August 27th.

There were present:—Sir Archibald Buchan-Hepburn, Bart., of Smeaton-Hepburn, President of the Club; Captain F. M. Norman, R.N., Berwick, Organizing Secretary; Mr G. G. Butler, Ewart Park, Wooler, Editing Secretary; Mr George Bolam, F.Z.S., Berwick, Treasurer; and the following members and friends:—Mr Johannes Albe, The Hawthorne, Duns; Mr William B. Boyd, Faldonside; Dr N. T. Brewis, M.D., Edinburgh; Colonel Brown, Longformacus, and Miss Brown; Mr T. Craig Brown, Woodburn, Selkirk; Miss Fordyce Buchan, Kelloe; Colonel Currie, Oxendean; Sir George B. Douglas, Bart., Springwood Park, Kelso; Mr William Nicol Elder; Mr J. Ferguson, Duns; Mr George Fortune, Kilmeny, Duns; Mr Robert Shirra Gibb, M.B.C.M., Boon, Lauder; Mr Arthur Giles, Edinburgh; Mr J. G. Goodchild, F.G.S., Edinburgh; Dr Henry Hay; Mr F. S. Hay, Duns Castle; Mr George Henderson, Upper Keith; Rev. Thomas Leishman, D.D., F.S.A. (Scot.), Edinburgh; Rev. J. F. Leishman, M.A., Linton; Mr Francis Lynn, F.S.A. (Scot.), Galashiels; Rev. D. McLaren, Humble Manse; Dr Marr, Greenlaw; Rev. Thomas Martin, M.A., Lauder; Captain Milne Home, Wedderburn; Rev. M. Muirhead, Westruther; Mr J. L. Newbiggin, Alnwick; Mr Ralph Richardson, Gattonside, and Mrs Richardson; Mr H. Rutherford, Fairnington; Mr William Shaw, Galashiels; Mr T. B. Short, Berwick; Dr Skinner, Lauder; Dr Stewart Stirling, Edinburgh; Mr Andrew Thomson, F.S.A. (Scot.), Galashiels; Mr William Weatherhead, Berwick; and Mr Joseph Wilson, Duns.

Lauder. By the Rev. Thomas Martin, M.A.

The meeting at Lauder in August was largely attended. Many of the members from the south and from Edinburgh travelled by the new railway, and arrived at the station at 11-17. In walking from there to the Black Bull Hotel, where conveyances were provided, the members passed along the High Street of the old Burgh. At the West Port they saw the only part that remains of the old wall which once surrounded the town. Outside of this wall a back street leads to the right and another to the left, which permitted passage past the Burgh when the ports were closed. Inside the wall the Rotten Row runs to the left, at right angles to the High Street. This, as the name indicates, was one of the roads which led to Lauder Fort or Castle. Till 1823 this formed part of a road which led through the Lauderdale policies to the old road at Norton. In passing down High Street some few specimens can be seen of houses built with the gable to the street, with narrow closes leading down to gardens and offices. On the right hand the Vennel branches off. This leads to Allanbank, the residence of Colonel Money, C.B., the Manse, the Castle Riggs, and some burgess acres. On the left hand there is a wide open space named the Avenue. This was at one time the approach to Thirlestane Castle, and some sketches still exist which show the avenue, with its grand line of trees, as the approach to the Castle, before it had been extended in the front by the massive wings and other appendages added by the Duke of Lauderdale and his successors. By an arrangement with the Earls of Lauderdale a right of way by the avenue and past the Castle over the Leader to the old road was given up many years ago. On the other side of the street from the avenue there is pointed out the site of what was formerly an old inn, called Johnny Cope's. Sir John is said to have made his first stop here after his defeat at Prestonpans in 1745. The site is now occupied by a handsome warehouse. From this point down to the Town Hall the street is called the Market Place, and is about 100 feet wide. In front of the Town Hall steps, the Town Cross once stood. In the Market Place is the Black Bull Hotel, once the site of an old "Peel." On the opposite side, and back

from the street, is the Church, built by the Duke of Lauderdale in 1673, to replace the old Lauder Kirk, of historic fame. Near it is the East U. F. Manse, built in the Tower gardens, once the site of the seat of the Lauders, known as the Tower. A striking feature of the Market Place is the Town Hall or Tolbooth. This faces the Market Place, and forms the western end of the "Midrow"—a row of houses which occupies the centre of the High Street. The Tolbooth was the scene of many weird events in past times. It has associations with crime and witchcraft and slaughter. Here, in 1606, the Earl of Home and his men burned the Tolbooth of Lauder, and killed the bailie, William Lauder, or "Willie at the West Port." A road called the Kirk Wynd crosses the Midrow a little below the Tolbooth. This road is so named because it led to the old Kirk which stood near the Castle, and crossed the Leader there by what is called in the Kirk Session Records "Egypt Bridge." A little below the Midrow, on the right hand side, is Red House, built on the site of the old Manse. When the old Manse was being taken down, for the purpose of building the new house, a stone was found bearing the date 1618, and with the inscription—PATRIB. ET POSTERIS IN RELIGIONE. *M. J. B., K. D., 1618.*

The initials on the stone, M. J. B., are those of Mr James Burnett, who was minister of Lauder at that time. He protested against the action of King James VI. when he sought to force the Articles of the Assembly of Perth upon the Church. His son was Bishop of Aberdeen, then Archbishop of Glasgow, and succeeded Archbishop Sharp in the See of St. Andrews.

Immediately below this is the East Port, where the two back roads join the High Street, and the road leads out to the country.

The history of the Burgh of Lauder is most interesting, inasmuch as the Burgh still retains full possession of all the rights and privileges conferred on it by its original charter, and is a unique specimen of a community system now almost extinct in Britain. The burgesses possess their burgess acres under the superiority of the Crown alone. The Burgh has a common of about 1700 acres, on which the burgesses have a right of grazing under regulations made by the Town Council. There are special arrangements made by the Council for the

cultivation of "hill-parts" for a rotation of years, and for the apportionment of these among the burgesses by lot. These burgesses form a community to which no one can be admitted unless he is a possessor of a burgess acre, and the Council possess the right of fixing the terms on which the possessor of an acre may be admitted to this community. A person may be a burgess, but he cannot participate in the rights of the common unless he resides within the Burgh, as these are given for "watching and warding." A burgess may possess more than one burgess acre; but no matter how many, he can enjoy only one right in the common. Fuller details cannot be given at present, but this imperfect outline shows how unique this burghal system is, and how ancient its origin must be.

* * * *

Mr Martin has, in addition, communicated a more detailed account of Lauder Burgh and its Common, which, at his request, is withheld, as he intends to make it the subject of his Address at the Annual Meeting in 1903.

After assembling at the Black Bull Hotel, the company first of all drove to Blythe farm, for the purpose of inspecting the Harefaulds,* a pre-historic encampment situated about a mile to the north-west of the farm steading, on an eminence overlooking the Blythe Water. On the west side the steep bank formed a natural protection, and it was defended by low crags on the south. There are traces of moats on the remaining sides. The remains, which are in a very dilapidated condition, consist of a large circle of stones, enclosing what appears to have been a series of hut dwellings, also of stone. Several cells of a circular or elliptical form are traceable in the outer circle. Mr Macdougall, the tenant of Blythe, most kindly acted as guide, and showed the party the more interesting features, and also a couple of coins—one of Elizabeth, and the other Spanish—which had been picked up on the ground. The party then drove to Thirlestane Castle, which the Earl

* Mr Francis Lynn gives an account of this on page 272. He adopts the spelling "Haerfaulds."

of Lauderdale, in his own absence, had kindly directed to be left open for the reception of members of the Club. Thirlestane Castle is a large and impressive mansion, the front of which is modern, but the portion extending at right angles to the back is of much earlier date, being one of the most picturesque examples of Scottish baronial architecture of the seventeenth century. After entering the hall, by a flight of wide stone steps, we passed through the various rooms, and saw the many historical relics, including portraits of the Lauderdale family, and others. Of these pictures perhaps the most striking was the grand head of John, Duke of Lauderdale, one of the famous CABAL, to which he gave its last letter. On the site of Thirlestane Castle Edward I. built a fort, which was long believed to have been incorporated in the present mansion, but later investigation seems to throw doubt upon this. The pre-Reformation Church of Lauder stood near the same spot, and the Duke of Lauderdale, in order to have the church removed from the policies, erected the present church within the burgh of Lauder, in the latter half of the seventeenth century.

On leaving Thirlestane, we were conducted by the Rev. Mr Martin to a spot a short distance below the castle, where he pointed out the remains of one of the piers of the historic bridge of Lauder, over which were hanged the favourites of James III., who had incurred the envy and displeasure of the Scottish nobility. It was on that occasion that the Earl of Angus won the sobriquet of "Bell the Cat." The story goes that when the nobles were met in Lauder Kirk, and were plotting measures to remove the favourites, one of them narrated the fable of the cat and mice, which raised the question as to who was to bell the cat. Whereupon the Earl of Angus started up and said, "I will bell the cat."

Still under the welcome guidance of Mr Martin, the Parish Kirk was visited, the history of which he briefly sketched, and at the same time exhibited the Communion Flagons and Cups presented by the Duke and Duchess of Lauderdale in 1677. Of these a full description will be found in the Rev. Thomas Burns's "Old Scotch Communion Plate."

The company afterwards dined in the Black Bull Hotel, Lauder, the President in the chair.

Notes on Botany. By Mr William Shaw, Galashiels.

On old ruins at Thirlestane Castle, *Draba verna* and *Veronica arvensis*.

On old arch across the road, *Ribes Alpina*; also in Castle grounds.

On the arch which marks the entrance to Spottiswoode policies *Ribes Alpina* was observed by Captain Norman, who considered that it could hardly be growing wild there.

"At the base of the arch," he observes, "as well as at the side of several gates, fanciful inscriptions by Lady John Scott were seen."

Along the side of the road a great quantity of *Spirea salicifolia*, evidently planted.

On side of road a great mass of *Senecio sylvaticus*, *Lathyrus macrorrhizus*, *Euphrasia officinalis*—almost out of flower.

Trollius Europæus, abundant in an old grass field. This is also abundant in one of the "acres."—A. Kelly.

Achillea ptarmica, *Artemisia vulgaris*, *Pyrethrum parthenium* on the roadside near a cottage.

Apargia hispida and *Apargia autumnalis* on roadside.

Carex sylvatica, at the Castle; the only *Carex* noticed during the day.

Plantago media, on lawn at Castle. This is extremely rare at Galashiels.

Torilis Anthriscus, *Chærophyllum temulentum*, *Angelica sylvestris*, *Heracleum sphondylium*, *Bunium flexuosum*.

Hieracium vulgatum was the only Hawkweed noted.

Alchemilla arvensis. This plant on high ground near Blythe assumes a curious form, being upright, and the flowers in little bunches.

The grasses on this side of Lauder were quite distinct from those on the Threepwood road, *Arrhenatherum avenaceum* seeming to be very common, and likely to be a great pest in turnip fields.

Only one patch of *Festuca rubra* was noted, but this grass was not on the Threepwood road. It is abundant on the Elwyn.

Festuca duriuscula, *pratensis*, *elatior*, *ovina*, are all on the Threepwood road; but I did not see any of them here.

In pastures the most prevalent grass seemed to be *Dactylis glomerata*; and some fields had a great quantity of "Bull Snouts."

Aira cæspitosa, which shows a damp subsoil and need of drainage.

Agrostis vulgaris was not at all common. Sheep seem to have a great dislike to it, but they seem very fond of *Cynosurus cristatus*.

Milium effusum, or millet grass—a discovery of the late A. Brotherstone and A. Kelly, Lauder—which grows quite close to the Castle. I quite failed to find "Plants."

Galeopsis versicolor was quite yellow in one patch of turnips, along with *Spergula arvensis* and *Polygonum Persicaria*.

Festuca bromoides, abundant near the manse at Lauder.

Geology, &c. Notes by Captain Norman.

Lauder is on Upper Old Red conglomerate. Travelling by light railway, the Old Red is first touched at Oxtou, Silurian before that. In 1860 an explorer bored for coal through the deep boulder clay which lies on the Old Red on Boon Hill, a useless quest, of course. On the side of Boundary Burn, a little below Old Thirlestane, a remarkably fine scaur of the boulder clay is exposed.

HAREFAULDS is specially protected by Lubbock's Ancient Monuments' Preservation Act—one of the 5 or 6 sites in Scotland that are.

At BLYTHE FARM is an old stone built into a wall. It was discovered many years ago in digging foundations, and shows a roughly hewn, though imperfect date, which is either 1002 or 1202. Sir R. Maitland, of Blythe and Thirlestane, died in 1298.

BOON HILL (= Boundary Hill), is the boundary between The Merse and Lammermuir, 1070 feet high. A cairn marks the old residence of the sergeant who looked after the telegraph, a semaphore I suppose. It was also called Beacon Hill,

General Notes.

HAREFAULDS.—There were shown to us by Mr Macdougall, as already mentioned, on our way to Herriots Dyke, two coins found at Harefaulds; and one of these, a broad silver piece, of Spanish currency, invited mental exercise from the imaginative student of Scottish history. It was equal in size though inferior in thickness to an English crown, and bore clearly marked on one face the date 1639, and on the other the arms of Philip IV. of Spain, encircled by the collar of the Order of the Golden Fleece.

LAUDER THATCHING.—Here was formerly a great *thatching* industry, as Mr Craig Brown told us. Lauder was its centre, and was in later years the last abode of professional thatchers, who would be summoned hence to other places to cover roofs in this picturesque fashion, which is now-a-days almost obsolete.

APPENDIX I.

Old Thirlestane Tower. By the Rev. Thomas Martin, M.A.

This ancient Tower or Castle, one of the original seats of the Maitland (Mautlant) family in Lauderdale, is now a ruin situated on the Boon water. Only a small part of the Tower remains, but the Tower, with its outbuildings and ramparts, traces of which can still be recognised, covered a large area, and must have been a strong fort and of great value for defence in the wars for Scottish independence.

It was the property and residence of Sir Richard Maitland in the middle of the 13th century. Sir Richard, like the nobles of that period, was a great friend and benefactor of the Church. There was a convent at Thirlestane, the ruins of which can still be seen near the farm house. To this Sir Richard gave "all the lands which Walter de Giling held 'in feodo suo de Thirlestane,' and reserved pasturage at Thirlestane for forty sheep, sixty cows, and twenty horses." In 1249 he also gave to Dryburgh Abbey "his lands of Haubentside (Howmeadows) for the welfare of his own soul, and his wife's, his ancestors' and successors' for all time." He was also a benefactor to Kelso Abbey, and a bond was entered into by Patrick, abbot there, and his convent, and Sir Richard and his eldest son William, concerning the pasturages of Thirlestane and Blythe.

These gifts were all confirmed by Sir William, who died early in the 14th century.

Sir Richard survived the commencement of the wars between England and Scotland at the close of the 13th century, and is the hero of an ancient ballad which commemorates his prowess in defence of his Castle. The possession of Thirlestane Tower was of great importance to the Scottish party, as Whitslaid Tower, about two miles further down the Leader, was the property of John Baliol, whose claim for the Scottish crown was supported by King Edward. The siege of the "darksome house," narrated in the ballad, probably took place in these wars, and the present ruin was the scene of it.

1.

There lived a king in southern land,
King Edward hight his name;
Unwordily he wore the crown
Till fifty years were gane.

.

6.

King Edward rade, King Edward ran,
I wish him dool and pyne,
Till he had fifteen hundred men
Assembled on the Tyne.

7.

And thrice as many at Berwicke
Were all for battle bound.

.

8.

They lighted on the banks of Tweed,
And blew their coals sae het;
And fired the Merse and Teviotdale,
All in an evening late.

9.

As they fared up o'er Lammermuir,
They burned baeth up and down;
Until they came to a darksome house,
Some call it Leader Town.

10.

"Wha hands this house" young Edward cried,
"Or wha gie'st o'er to me?"
A gray haired knight set up his head,
And crackit right crouselly.

11.

"Of Scotland's king I had my house;
He pays me meat and fee;
And I will keep my guid auld house,
While my house will keep me!"

12.

They laid their sowies to the wall,
With mony a heavy peal;
But he threw o'er to them agen
Baeth pitch and tar-barrel.

13.

With springalds, stanes, and gads of airn,
Amang them fast he threw;
Till mony of the Englishmen
About the wall he slew.

14.

Full fifteen days that braid host lay,
Sieging Auld Maitland keen;
Syne they ha'e left him hail and feir
Within his strength of stane.

Ballad Minstrelsy of Scotland.

Blythe was also a possession of the Maitland family in the 13th century. The ancient Tower occupied what is now the site of the present house. Part of its foundations were laid bare some years ago, when additions were being made to the present building. At that time a stone was discovered which is still preserved in one of the walls of the Steading with embossed figures on it—1-02. Unfortunately one of the figures has been broken off, leaving room for conjecture as to the second figure. The workman who found the stone is an intelligent man, and he declares that the missing figure was 2, and that the date is 1202. The figures are large and coarsely cut. Until recently a vaulted part of the old Tower remained, and all round are the remains of a strong border "Keep."

Sir Richard Maitland, the blind poet, born in 1496, in one of his poems plays frequently upon his "blithe" condition and his "Blythe" possession.

The present Thirlestane Castle. This was originally a Fort said to be built by Edward I., of England. It was frequently in the possession of the English, and on one occasion the Scots were unable to dislodge them till they got the assistance of the French. It did not come into the possession of the Maitland family till the time of Sir John Maitland, 1537-1595. He was the first Lord Maitland of Thirlestane, and he removed to Lauder Fort and made it the family residence, with the name of Thirlestane Castle. His grandson John, second Earl and only Duke of Lauderdale, added to the original Fort the front part and two wings, and otherwise improved the interior. Over

the main front door there is embossed a cornucopia and the figures 1672. Under this there is the Lauderdale Coat of Arms. At each end and in the centre of the lintel are monographic letters of the Duke's titles separately and combined—Earl of Lauderdale, Duke of Lauderdale, and Duke Earl of Lauderdale.

The stones used in the addition and restoration of the Castle are red sandstone, and were got from a quarry at Bassendean. An entry in the Lauderdale accounts of that date shows this:—“To Archibald Watherstone, quarrier at Dean, and in full of freestone digged by him from September 1st 1670 to 3rd October 1672, £1811 16s. 1d.” The outside view of the old portion of the Castle conveys at once the impression of an ancient fortress. It occupies a commanding position, and has rounded towers and parapets and numerous small loop holes. In the lower parts its dungeons and instruments of torture are still seen. The walls of this part are all of immense thickness, and show the purpose for which it was originally built.

In front of the Castle, where the lawn now is, a very old tree marks the site of the old parish Church, prior to 1673, when the Duke built the present Church. It was in this old church that the nobles of James III. met and formed a plot to put the king's favourites to death. When the plot was completed Douglas, Earl of Angus, afterwards called “Bell the Cat,” siezed Cochrane and the other favourites and in the presence of the king hanged them over Lauder bridge. This happened in 1482. The old bridge is now gone, but it was in existence in 1684, when the Earl of Lauderdale borrowed from the Kirk Session wood, to hang the bell in the Church, which they had secured for the repairing of “Egrypt” bridge. The bridge had this local name from Egrypt Wood, which is on the east side of the Leader. The site of the old bridge is pointed out a little to the south-east of the castle. There is in the Burgh a road called the Kirk Wynd. This road got its name from the old Kirk to which it led when it stood near the fort, and the continuation of this road leads across the Leader to Egrypt, at the place where the foundations of the old bridge are pointed out.

APPENDIX II.

Clacharie. By the Rev. Thomas Martin, M.A.

In a field on the right hand side of the road which leads to Blythe, a round cairn attracts the attention of visitors. This was originally a small hillock or knowe, too stony to be ploughed. It excited the interest of the late Lady John Scott, of Spottiswoode, and in the early sixties she obtained permission from the Earl of Lauderdale to explore the place. She then discovered that it was an ancient British burial ground. In the course of the exploration the workmen found, in the centre of the knowe, an urn of great antiquity. The urn was of baked clay, hand made and sun dried, and ornamented round the edge by being pinched by the finger and thumb while the clay was still soft. On the top of the urn there was a flat stone, it was packed round about with sand, and its contents were cremated bones. In a circle round the urn there were some six cysts, composed of upright stones in the form of a square, which also contained bones, but unburnt. In one corner of the place there was found a lot of ashes, which probably indicated the spot where the body had been cremated previously to the remains being placed in the urn. The urn was taken by Lady John Scott to Spottiswoode House, and placed in her museum there. On her death it went into the possession of Sir George Warrender, Bart.

Lady John caused a memorial of this interesting discovery to be erected. She took a piece of parchment and wrote on it an account of the place and its contents, and this was signed by herself and all engaged in the work of exploration. This parchment, with a copy of the *Kelso Mail* and some coins—a penny, a half-penny, and a farthing—were placed in a jar, hermetically sealed, and buried along with the bones found in the cysts. She then caused the stones to be piled up in a cairn, which attracts the notice of the passers by, and keeps fresh in the memory of the people the story of the discovery of this wonderful ancient burying place.

APPENDIX III.

The Haerfaulds. By Francis Lynn, F.S.A. (Scot.), Galashiels.

(PLATE XXII.)

The Haerfaulds is a strong enclosure built of stone, without any appearance of outer ditch. Along its south-east side its walls follow the summit of a rocky ridge or ledge, worn out or torn out by the ice stream in the glacial age. On the south-west the ground falls steeply to the Blythe water. On these sides the position being strong the walls are of moderate strength; but along the north side, where the ground surface rises gently above the fort, the walls are of great thickness. At the north-west angle the thickness is 12 feet. On the north-east corner it varies from 11 to 18 feet, but about the middle of the north wall it widens out to 32 feet. It is difficult to be sure of the exact line on the inner side of the building, the stones having been removed in great quantities, and the face of the building broken up. The plan given by Mr Milne Home (the father of our late Secretary), which is used by Dr Christison in his works, shows the wall as of uniform thickness all round, with circles built inside and abutting on the outer wall. But Mr Home had thought that some of these circular buildings had been recessed inside the wall. Dr Christison does not agree with this view, but I myself am of opinion that Mr Home was right. Chambers in the thickness of walls are not rare. Greaves Ash in Breamish Water shows them unmistakably, and they are distinct in the north wall of Blackchester Fort, above Lauder. There are suggestions of the same thing at Longcroft. But these cells are introduced with a regularity that is strikingly absent in the design of those at Haerfaulds.

SURFACE
RISES SLIGHTLY



STEEP
DESCENT TO BURN

ROCK



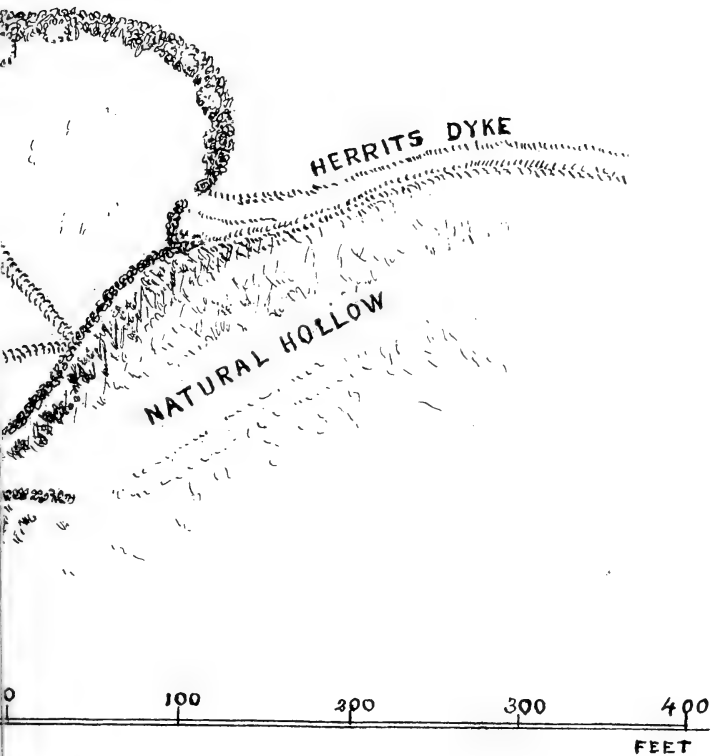
NATURAL ROCK

ARTIFICIAL

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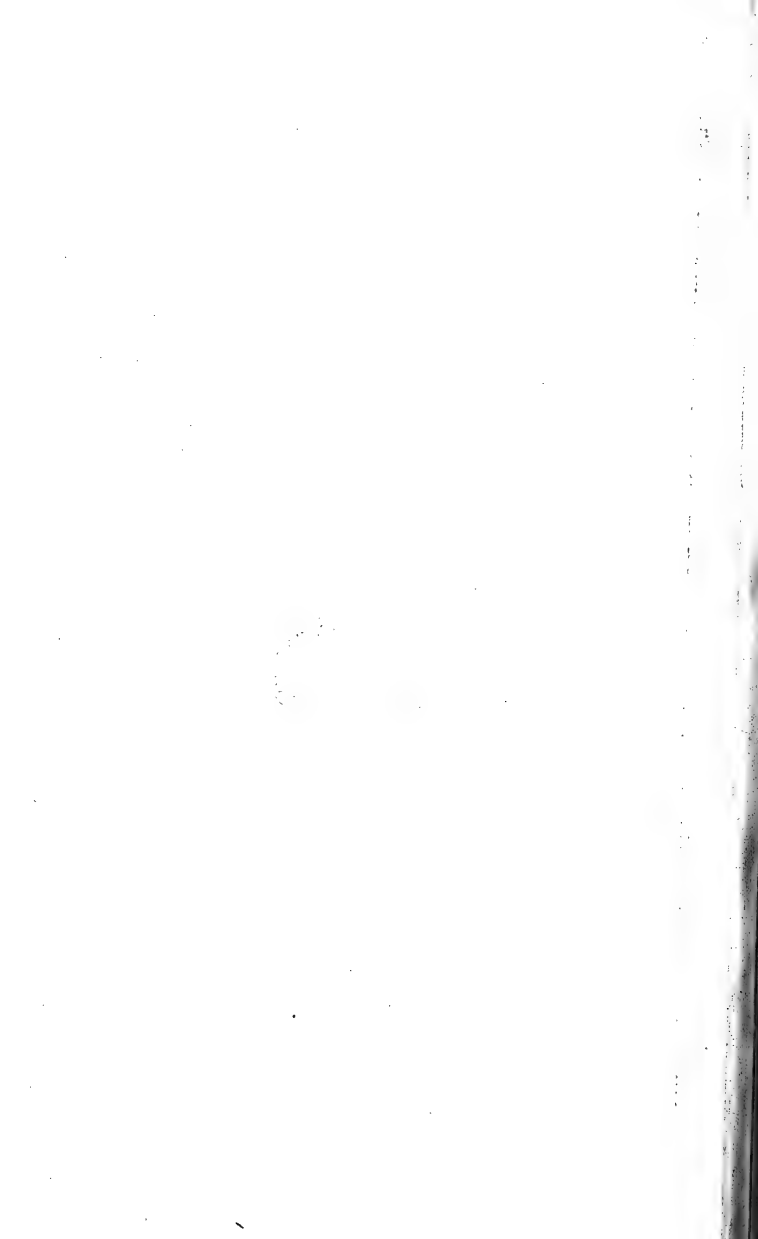
FRS LYNN
F.S.A. S

PLAN OF THE



OT.

AERFAULDS, BLYTHE, LAUDER.



In the widest part of the wall there is a double arrangement of cells, one large chamber measuring over 18 feet by about 8 feet. Beyond this, a door opening through a wall 3 feet in thickness connects with a smaller chamber over 6 feet square. Outside this there still remains about 12 feet of building. These chambers are certainly formed in the thickness of the wall, and have a greater similarity to the cells formed in the walls of a broch than to those seen in the ordinary British fort. Possibly the builders here had seen a broch. The general character of the mason work is that usual in stone forts the building of which, considered as mason work, is inferior to that seen in the broch. There is a tendency to set any long stones they have had upright in the ground with the broadest face outwards. In many forts these stones so set, earth-fast, remain to indicate the line of the wall after the smaller stones used as packing have been removed. I have formed the opinion that the race who built thus had formed their ideas of building construction in a forest country, where wood was the material used, and these upright stones are substitutes for wooden piles or posts. No doubt there were originally a greater number of cells in the wall than can now be traced. Mr M. Home's earlier plan shows more than I can now do. In the interior of the enclosure none of the hut circles remain. There is by the south gate a guard chamber, and there are some enclosures there that may have been used at some time for cattle. The diagonal mound running straight across the interior is a common feature in forts in exposed positions. At Hillhouse Fort, in upper Lauderdale, a large mound runs across, and close against it shelters a line of hut circles. In Parkhill Fort (see Plate VII. in paper on the "Heads of Bowmont Water," in Club's Proceedings for 1897, p. 191) two similar mounds occur, where the hut circles still remain.

But a notable circumstance at Haerfaulds is that to its eastern gate a branch of Herrits Dyke runs up. Herrits Dyke is the Berwickshire name for a work of a widely spread type. A hollow with a mound on one side is the common form, but sometimes there is a mound on both sides, and occasionally there is a hollow without any mound. The Catrail in Roxburghshire, the Deil's Dyke in Galloway,

the Deil's Jingle in Eskdale, and the Black Dyke in Northumberland, and as many other lines which exist without a name, are in character and purpose exactly the same as Herrits Dyke. Here at Haerfaulds the hollow runs to the gate, and supplies one of the instances, of which there are several, which go to prove that such works were hollow ways made and used by the people who made the hill forts. From Haerfaulds this line of Herrits Dyke runs past Blythe farm buildings and past Bruntburn Mill on to the wooded ridge behind Spottiswoode, along which it runs, passing to the north of Westruther. But Herrits Dyke waits for closer examination, and will require a paper to itself. On the surface south-west of Haerfaulds there are numerous ancient rigs, many of which must have been formed under hoe cultivation, the upstanding rocks making ploughing impossible. It is known that there was a crofter population here in the middle ages. These rigs may be their work.

FLODDEN.

THE FIFTH MEETING of the year 1902 was held at Branxton, in order to visit Flodden Field, Flodden Hill, and Twizel Bridge, on Wednesday, 24th September.

The weather, for late September, was unusually warm and brilliantly clear, and a large concourse was the result of this tempting face of the heavens. The President, Sir Archibald Buchan-Hepburn, arrived at Branxton Church from Cornhill, and was accompanied or met by the officials of the Club, Mr G. G. Butler and Captain F. M. Norman, the Secretaries; and Mr George Bolam, F.Z.S., the Treasurer; and also by Mr W. B. Boyd, Faldonside; Mr Hippolyte J. Blanc, F.S.A. (Scot.), Edinburgh; Dr N. T. Brewis, Edinburgh; Rev. J. Burleigh, Ednam; Mr J. Caverhill, Jedburgh; Rev. Professor J. Cooper, Glasgow University; Mr T. Dand; Lady Elliot; Captain Forbes, R.N., and Miss Forbes, Berwick; Mr Henry B. Fox, Galewood; Mr Arthur Giles, Edinburgh; Mr Henry Hay; Mr J. H. Milne-Home, Mr D. Milne-Home, and Miss Milne-Home, Caldra, Duns; Dr T. Hodgkin, D.C.L., Barmoor Castle; Rev. Thomas Leishman, D.D., Edinburgh; Rev. J. F. Leishman, Linton Manse; Mr William Maddan, Berwick; Professor Medley, Glasgow University; Misses Smail, Wooler; Rev. Canon Wilsden and Miss Wilsden, Wooler; Mr William Weatherhead, Berwick, and others.

That part of the company which drove from Cornhill to Branxton visited on the way the little well by the roadside immediately below Branxton Church, which is the true "Sybil's Well" of the poem of Marmion.

At Branxton Church Dr Hodgkin, who had driven over from Barmoor Castle, gave a short sketch of the history of the battle, which was completed when the company had ascended to the little eminence of Piper's Hill, which affords an excellent view of the western part of the battle-field.

As time pressed the lecturer took it for granted that his hearers were acquainted with the causes which led up to the war, with the earlier operations of James IV. (22nd—28th August 1513), in which he took the castles of Norham, Wark, Etal, and Ford; and, according to the belief of the country-side, incurred the anger of St. Cuthbert by the ravages which he committed on the territory of the saint. After these operations there came a pause, and possibly James's strategic ability was at fault; but there is no reason to attribute the delay of these few days, as the credulous Pitscottie does, to the fascination of Lady Heron, who seems to have quitted the district two days after King James crossed the border.

Meanwhile the aged Earl of Surrey (who would have borne the title of Duke of Norfolk but for the attainder of his father after the battle of Bosworth) was approaching the scene of contest with a hastily raised body of men. King James had fixed his camp on Flodden Hill, "a place," as Lord Surrey bitterly complained, "more like a fortress than anything else." Surrey, on the other hand, by the 6th of September had entered the valley of the Till and was encamped on Wooler Haugh. There was much sending to and fro of heralds and trumpets, mutual defiances, and an agreement practically arrived at that the great duel between the two nations should come off on Friday, the 9th of September. But where? That was the all important question which probably caused the English general many an anxious thought. Was he to march down the valley of the Till and send his rough militia-lads charging up the sides of the natural fortress on which James with his strong army, excellently provisioned, sat comfortably awaiting his attack? No: he thought he saw a better way than that. Disappearing from James's view and from all chance of contact with his scouts, he marched on Thursday some eight miles northward along the Berwick road (if such a road there were at that time) and encamped for the night at Barmoor Wood.

Next day, the fateful day of battle, he divided his army into two portions and sent one, the vanguard, under the command of his son the Admiral by a great circuit to cross the Till at Twizel Bridge, and thus arriving at Cornhill to interpose themselves between James and Scotland, to menace his lines of communication, and perhaps to ravage the fruitful Merse.

Meanwhile old Surrey himself with the rest of his army marched down the hill to Ford, crossed the river by one of the fords which have given that place its name, and, not without difficulty, made their way through the expanse of pool, marsh, and streamlet, which then lay between Crookham and Pallinsburn. This division of Surrey's army was surely a somewhat dangerous manœuvre. A master of the art of war, such as Napoleon, would probably have been delighted to behold it. He would have struck right and left at the Earl and the Admiral ere they had effected their junction, and probably annihilated them both. With James IV., however, for an antagonist there was no such risk; and in justice to the unfortunate king we should remember that Galileo had not yet invented his "optic glass," and that consequently a general had to trust to his own unaided vision as to the movements of his opponents, and that moreover there was constant rain falling, which obscured the air and made the work of scouting along the slippery banks of the swollen Till no easy task.

Well: the junction was effected, the marsh safely crossed, and by four o'clock in the afternoon the two armies were joined in deadly encounter. King James, seeing the English host thus interposed between him and his kingdom, was forced to give up his vantage ground on Flodden Hill. He set fire to the rubbish which had accumulated during his stay on the hill, and the smoke of this burning, driven northward by a strong south wind, is said to have partially hidden his movements from his adversaries. It is not easy to locate the scene of the battle very precisely from the accounts of the chroniclers, none of whom seem to have been personally acquainted with the ground. In front of Flodden Hill, between it and the river Till, rises another hill almost equally high (generally called Branxton Hill) which must have played an important part in the movements of the troops, but of which

the chroniclers take no notice. It seems, however, tolerably clear that the bloodiest part of the battle was fought round the little village of Braxton (nearly two miles in a N.W. direction from Flodden Hill), and it may probably have extended nearly a mile along a line running east and west from this point. A number of bones were found some forty years ago on Piper's Hill, a little eminence S.W. of Braxton Church, and that is the spot generally connected with the fierce encounter between the English right and the Scottish left, in which Sir Walter Scott imagines Marmion to have fallen.

The armies numbered 60,000 on the Scottish side and 40,000 on the English. It is probable that the inequality in numbers was fully compensated by the superior discipline and cohesion of the English force. It is important to remember that while Surrey's men all belonged to the same race, and were, in fact, chiefly drawn from two or three shires, James's army consisted of two races, the Saxon and the Gael, who did not understand one another's language, and who were often at deadly war with one another. Especially one imagines that the men from the Hebrides and the more distant Highlands, though brave almost to foolhardiness, would be so unseasoned and so little inured to discipline that they might be even an absolute source of weakness in the Scottish army.

The battle began on the English right, where Sir Edmund Howard (son of Earl Surrey, and father of the girl who was one day to be Queen Katharine Howard) with young Sir Bryan Tunstall and a number of gentlemen of Lancashire and Cheshire stood opposed to the Earls of Huntley and Home. Here the Scottish left made a successful charge. Tunstall was slain and Edmund Howard sorely pressed. It seemed for a time as if the day was lost for the English, and the Scottish borderers under Huntley and Home began to plunder the English camp. Gradually however the Admiral, Surrey's eldest son, much aided by an opportune charge of cavalry under Lord Dacre, succeeded in rolling back the tide of battle and restoring the English line. The Earls of Crawford and Montrose, the Admiral's immediate antagonists, were slain; and the Admiral, who had begged earnestly for help from his father, was now able to hold his own. In the centre there was desperate fighting between old Surrey and the king,

fighting which might perhaps have ended in a drawn battle had not Sir Edward Stanley, who commanded the English left wing, so utterly routed the Highlanders and Islesmen opposed to him that he was able to double round and fall upon the flank of the Scottish king. Here then in the centre of the two armies, probably near the present vicarage of Branxton, occurred that terrible scene of carnage in which the flower of the nobility of Scotland fell, round the standard of their fallen king.

“The stubborn spearmen still made good,
Their dark impenetrable wood;
Each stepping where his comrade stood
The instant that he fell,
No thought was there of dastard flight;
Linked in the serried phalanx tight,
Groom fought like noble, squire like knight,
As fearlessly and well,
Till utter darkness closed her wing
O'er their thin host and prostrate king.”

There is nothing more that need be said as to the field of Flodden, except that while the Scottish ordnance under Robert Borthwick seems to have signally failed to answer the expectations of its possessors, the English cloth-yard shafts were, almost for the last time in the history of war, potent winners of victory: and that the so-called “King’s Stone” in a field near Pallinsburn, which used to be said to mark the site where the king’s body was found, has, we may say with certainty, no connection with the battle of Flodden, but is rather a pre-historic monument of immemorial antiquity.

Dr Hodgkin, during the reading of his paper and after its conclusion, answered several questions which members asked him. As various points were identified around us, as we stood on Piper’s Hill, someone asked of Dr Hodgkin: “And now, please, show us Barmoor.” He answered: “I can show you the direction in which it lies,” as he pointed eastwards, “but it was precisely for the reason which made the Earl of Surrey bivouac there, the night before Flodden was fought, that I am unable to-day to show it to you, and that is, that from

where the Scottish host was encamped, near the spot where we now stand, Barmoor is quite invisible."

Captain Norman then read a memorandum by Mr Goodchild on the well-known monument called "The King's Stone," which is often identified with the place where King James fell, though in reality it has no historical significance. Mr Goodchild says that it was almost certainly a trysting or gathering stone, which was placed where it is long before 1513, probably by artificial agency. This megalith, Mr Goodchild explained, consists of a thick slab of dolomitic or magnesian limestone, identical in nature with that which occurs in the quarries at Carham, and it must originally have been brought thence either by human efforts, which is not very likely, or by glacial transport, which is much more probable.

We then moved through the fields south-eastward, through Blinkbonny, towards Flodden Hill, on whose northern flank we rested under the trees, whose plantation dates from forty or fifty years ago. A visit was made to the so-called "Sybil's Well," which, however, is not that well which is mentioned in Marmion, the true well lying not far from Branxton Church, as was seen by those who, earlier in the day, came by the road from Cornhill.

After a short walk up the hill to the site of the King's Seat, we descended on foot eastwards, through an avenue of trees, till we reached Flodden Lodge, upon the old coach road from Wooler to Coldstream. Here the carriages were in waiting, and members of the Club enjoyed a delightful drive by Ford Bridge and the iron gates of Ford Castle, through the villages of Etal and Duddo, each possessing its own ruined castle, until they arrived at Twizel Bridge, the very bridge over which the Admiral, Lord Howard, Surrey's son, led his forces in the long flank and rear march against King James. A halt was made here while Captain Norman gave a brief history of the bridge; he quoted Leland, who, in his "Itinerary," published in 1545, thus alludes to it: "So to Twisle Bridge of stone, one bow, but great and strong, where is a townlet and a towre." The span of the bridge is 90 feet 7 inches, and it is 46 feet in height, measured to the top of the battlement. The bridge is said to have been built by order of a lady of the Selby family.

Captain Norman also called attention to the ruins of Twizel Castle, which stands on high ground between the courses of the rivers Till and Tweed. It is a modern ruin for all its venerable appearance. The remains of the castle were visited by those who walked through the fields to Twizel Station, amid the in-gathering of the harvest.

The large concourse of the members of the Club, which had already somewhat dwindled, was reduced to only ten by the time they met at five o'clock for the Club dinner in the Avenue Hotel, Berwick. Besides the usual toasts, this nucleus of ten cordially drank the health of Dr Hodgkin.

Names of some new members having been brought forward for election, Captain Norman concluded the business of the day by producing for inspection a leaden ball, weighing 1 lb. 3 oz., scored and pitted, and bearing undoubted signs of antiquity. This had been found a few years ago, about 250 yards east of Branxton Church, and was now brought to the notice of the Club by Mr James Matthewson, of East Money-laws, and Mr A. L. Miller, J.P. It has always been held that in Flodden fight leaden balls were fired by the Scottish artillery, and iron by the English, so that this one, being found on the ground occupied by the English lines, would seem to be a missile fired from a Scot's cannon.

Captain Norman also showed a photograph of Twizel Castle taken when it was still standing as a new building, before it was demolished by orders of its late proprietor.

BERWICK.

THE ANNUAL MEETING for 1902 was held in the Museum, Berwick-on-Tweed, on Thursday, 9th October.

The following members were present:—Sir Archibald Buchan-Hepburn, Bart., Smeaton-Hepburn, Prestonkirk, (President); Captain F. M. Norman, R.N., Cheviot House, Berwick (Organizing Secretary); Mr G. G. Butler, Ewart Park, Wooler (Editing Secretary); Mr George Bolam, F.Z.S., Berwick (Treasurer); Mr W. B. Boyd, Faldonside; Sir Gainsford Bruce, D.C.L., Gainslaw House, Berwick; Mr J. L. Campbell-Swinton, Kimmerghame; Lady Elliott, Stobs, Roxburgshire; Mr Arthur Giles, Edinburgh; Mr Geo. Grahame, Berwick; Mr J. P. Hughes, Middleton Hall, Wooler; Mr T. B. Short, Ravensdowne, Berwick; Mr Jas. A. Somervail, Broomdykes; Mr Wm. Weatherhead, Berwick; Mr Edward Willoby, Berwick.

TREASURER'S STATEMENT.

Mr George Bolam presented his report as Treasurer of the Club. He said they brought forward from last year's account £118 0s. 1d. Including that the total income for the year had been £296 6s. 1d. The expenditure had been £132 16s. 9d., leaving a balance in hand of £163 9s. 4d. The total membership at last Annual Meeting stood at 369. Then 11 new members were proposed, bringing the total up to 380. Since then they had lost by death and resignation 24, leaving the present membership at 356.

THE SUBSCRIPTION.

On the motion of the Treasurer the subscription for next year was fixed at 10s., at which amount it has stood for several years.

DECEASED MEMBERS.

The President read a list of members who had died during the year. They were Colonel Milne Home, (Organizing Secretary), Mr John Roscamp, Mr Robert Amos, Sir Ramsay Fairfax, Dr Charles Stuart, Mr Cadwallader Bates, Mr John Hogg, Dr Ivison Macadam, and Mr D. McB. Watson.

Memoirs of the most important of these members will appear in due course in the Transactions.

NEW MEMBERS.

Captain Norman proposed the following names for election to membership of the Club:—

Walter Marchant, Alnwick.
Rev. D. Denholm Fraser, Sprouston.
John Taylor, Coldstream.
Robert Thompson, Solicitor, Jedburgh.
James Smeall, Jedburgh.
Thos. Hodgkin, D.C.L., Barmoor Castle.
F. C. Crawford, Edinburgh.
Patrick Smith, Sheriff Substitute of Selkirkshire.
Dr W. B. Mackay, Berwick.
Dr H. Hay, Edinburgh.
Rev. James A. Milne, Stobo.
John Dand, Warkworth.
Rev. D. D. F. Macdonald, Swinton.
J. C. Collingwood, Cornhill House.
Walter Ellis, Galashiels.
Miss Fordyce-Buchan,* Kelloe, Edrom.
Miss Alice Low, The Laws, Edrom.
Miss Simpson, Balabraes, Ayton.

The list was approved, and those whose names it contained were duly elected members of the Club.

REPORTS OF MEETINGS.

Mr G. G. Butler, Editing Secretary, laid on the table draft reports of the meetings held during the year.

* Now Mrs Hay, of Duns Castle.

THE POSTS OF ORGANIZING AND EDITING SECRETARY.

Captain Norman said that after the death of their late excellent Organizing Secretary, Colonel Milne Home, every effort was made to appoint a successor, but without avail; and, as time wore on, it was seen that the Club was in considerable difficulty, and upon this being represented to him, he undertook to fill the post until a successor could be found. He had done so, and would continue to do so for one more year, if (as he was about to say) they accepted his services, and he was glad to hear they did so. He hoped they would have no cause to regret his being Organizing Secretary for another year. It was no easy matter to appoint a Secretary, as the officials knew very well, but he hoped in the time that should thus elapse they would meet with some one who would accept the post.

Mr Butler, Editing Secretary, said that upon laying down his office he would like to express the regret he felt at being unable to continue in that capacity. That was not an occasion for entering into personal considerations, but, as the President had kindly said for him, he had not really time to devote to the work. He was not a man of leisure, he wished he were, but anyone who undertook the work would find it a very pleasant and congenial occupation. He expressed his regret at leaving them in that official capacity, but hoped he should continue to enjoy the meetings of the Club.

Mr T. B. Short referred to the great success which had marked the meetings of the Club throughout the year, due to the exertions of the Organizing Secretary, Captain Norman. He had been taken by surprise in attending these meetings at seeing the extraordinarily fine way in which the plans were carried out. The manner in which Captain Norman had conducted this part of the work had given both pleasure and satisfaction to the members. He was very glad to hear that Captain Norman was ready to maintain office.

The President moved that an expression of their appreciation of the services of Mr Butler should be made in the Transactions of the Club, and that it be left to the officials to draw up in proper form.

Mr Hughes said it had struck him very forcibly that the Club, by receiving the resignations, was placed in a very much inferior position to that which it had occupied for the last two years. They were flattering themselves and, indeed, at the British Association he had said that the Berwickshire Naturalists' Club was enjoying a very great advantage by the positions of Editing and Organizing Secretary being filled by men of the very first qualification. Unfortunately, at that meeting they had to deal with their resignations. The Club would be in considerable straits in finding a Secretary to fill the Editing post. They might congratulate themselves that Captain Norman, with his zeal and good nature and hearty appreciation of the value of such a Club as that, consented to act for another year. He regretted very much indeed that they were losing Mr Butler, whose qualifications eminently fitted him for the position. It was for them to record most emphatically the great obligation under which they had been placed by Mr Butler's accepting the office of Editing Secretary, at a time when they were in difficulties as to finding a Secretary. They accorded him very hearty thanks, and wished him good health for the future.

Captain Norman expressed his thanks to Mr Short for the kind words which he had used in appreciation of his services. He could assure the Club that he highly valued that expression of encouragement, and hoped he should continue to deserve it. He had done all he could to make the meetings a success, and he thought it was only fair to say that in a great measure the success they had enjoyed was due to Mr Goodchild, who, though at inconvenience to himself, had attended them, and from his great knowledge, and the ready way he had of imparting it, had been of much advantage to the members and to the objects of the meetings.

MEETINGS FOR 1903.

The following meetings were arranged for 1903:—May, Earlston for Black Hill; June, Ross and Budle Bay; July, Eildon Hills; August, Dunstanburgh; September, Dalkeith; October, Berwick.

BRITISH ASSOCIATION DELEGATE.

Mr G. P. Hughes, representative of the Club at the British Association, gave an epitome of his report of the Annual Congress, held at Belfast.

He was thanked for his services, and invited to undertake a similar duty next year.

STICHILL BARONY COURTS.

Mr Bolam said that, arising out of the meeting at Peebles, he had received from Dr Gunn two manuscript volumes, transcribed by the late Secretary of the Club from the original at Stichill, of the minutes of the Baron Courts held there from 1659 down to the beginning of the 19th century. In connection with these he proposed that Dr Gunn be thanked for his letter drawing attention to the matter, and that steps be taken for printing the Minutes of the Barony Court of Stichill, as transcribed by their late Secretary, provided sufficient members were found to defray the cost. He had made enquiries as to the cost, and he found it would be about 3s. each, if so many as 200 members would subscribe.

Captain Norman seconded, and the motion was agreed to.

On the motion of Mr J. L. Campbell-Swinton, a hearty vote of thanks was accorded to Sir Archibald Buchan-Hepburn for his services as President during the year.

The President having replied, the proceedings terminated.

At the conclusion of the formal business of the meeting, some natural history specimens were exhibited, namely:— a Shoveller Duck (a young male) and a Green Sandpiper (in winter plumage), shot on the 2nd of January, close to Hedgeley in Northumberland; also a botanical specimen was exhibited by Mr Somervail, who had obtained it, namely the clover *Trifolium fragiferum*, examined and identified by Captain Norman and Mr W. Boyd, who stated that it was an entirely new plant for Berwickshire, very local, and found only in two counties of Scotland, though commoner in the south of England. It was recognised also as *T. fragiferum* by Mr

Linton, of Bournemouth. Owing to the late cold season this specimen had not seeded: the ripe fruit alone was wanting.

The members afterwards dined together in the Avenue Hotel, Berwick.

*Extract from the "Newcastle Daily Journal,"
February 1st 1901.*

Regrettable news has been received from Quetta, India, of the murder of Captain Dudley Cater Johnston, senior medical officer at Lovalai. He was attending a bazaar, when he was ruthlessly stabbed by a Ghilzai fanatic. Captain Johnston was a grand-nephew of the late Dr George Johnston, the eminent Berwick naturalist, author of "The Flora and Fauna of Berwick," and the founder of the Berwickshire Naturalists' Club. The deceased young officer was educated at Christ's Hospital, and entered at Charing Cross Hospital Medical School before he was sixteen. Here he gained medals every year, and won the Llewellyn Scholarship. He was fully qualified at twenty-one, and after serving as house surgeon and physician, was appointed demonstrator in pathology at the age of twenty-two. He entered the Indian Medical Service, and got his captaincy in 1897.

Old Thirlestane Castle and Convent of Thirlestane.

By MR FRANCIS LYNN, F.S.A. (Scot.)

(PLATES XXIII. AND XXIV.)

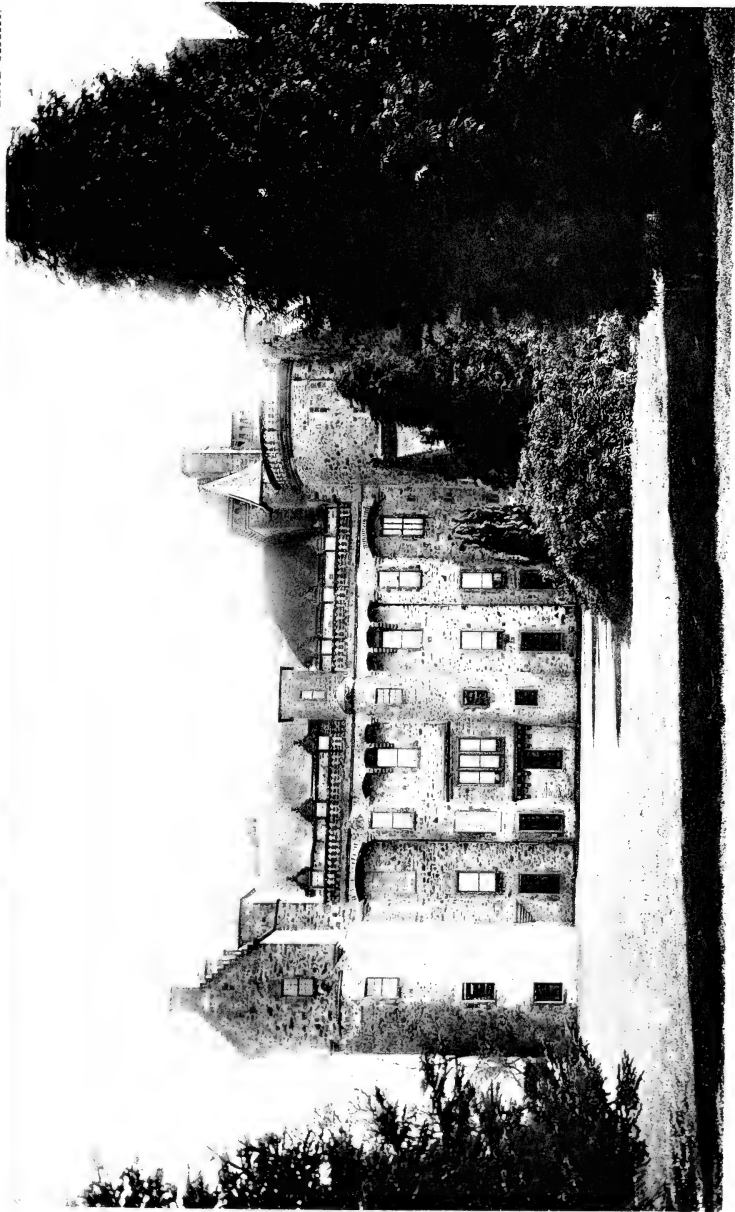
OLD THIRLESTANE CASTLE, which the Club visited on 27th August 1902, is not an extensive building. The main part has been a tower, 33 feet by 24 feet outside the walls. An extension to the westward projects 11 feet 6 inches, and measures across 14 feet 5 inches. This has been built to contain the stair, and is roughly circular inside, and the supports for the ends of the steps are built in, and still project from, the wall. What strikes one is that the proportions of the stair are great, and out of all proportion with the size of the building as a whole.

The lower part of the main building has been arched over, forming a vault. The springers of the arch remain on the south-west side, and the position of these indicates that there is several feet of rubbish above the original floor in the interior.

The semi-circular recess in the wall, in the north-west corner, has the appearance of an oven, and there are indications of the smoke flue in the wall above.

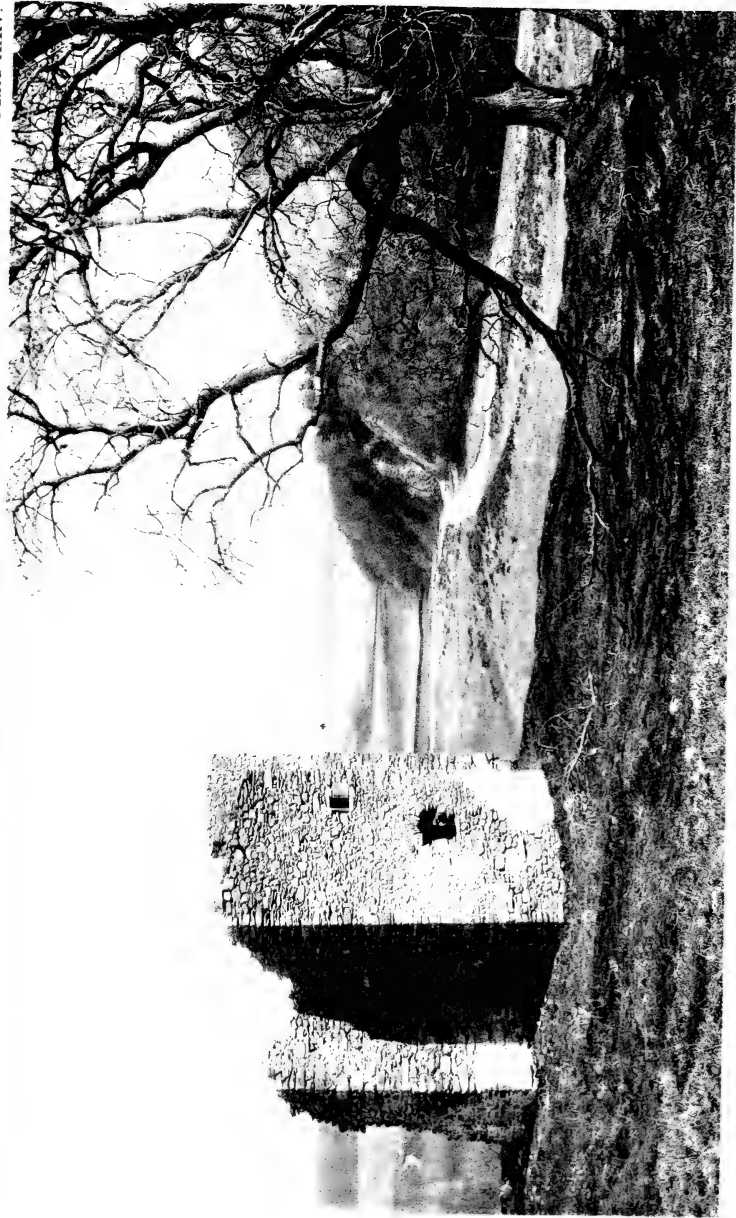
The door has been originally in the north-west wall of the staircase, but the jambs and lintel and one-half of the safe arch over the lintel have been removed at a remote period, and the doorway built up.

Besides the narrow window opening in the staircase (shown on the plan) there is another over the door. All these remaining windows are deeply recessed into the wall, and would not be very serviceable as shot-holes for defence. There are no shot-holes visible above the present surface, such as are common in Scotch towers.



THIRLESTANE CASTLE FROM N.W.





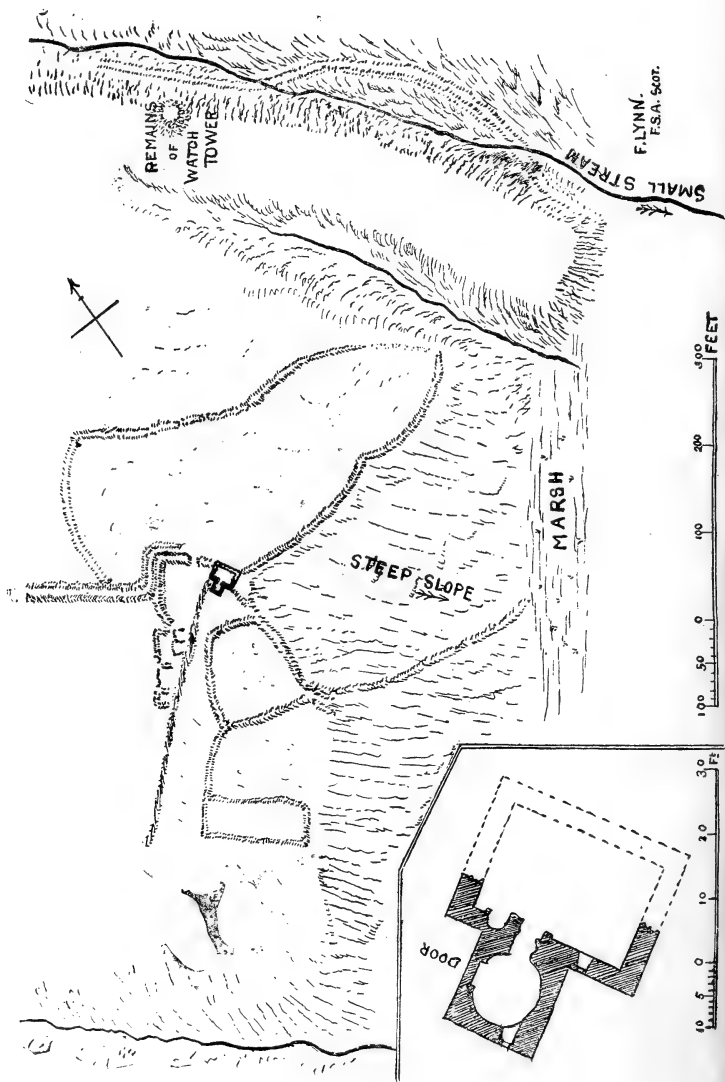
THRILESTANE TOWER.



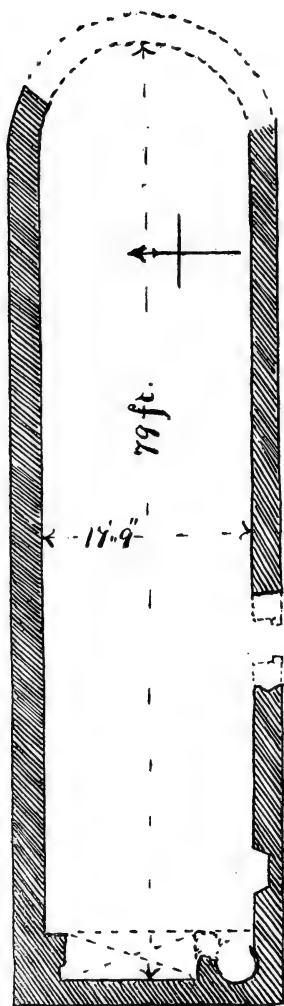
The general thickness of the walls is $3\frac{1}{2}$ feet. The greater part of the wall in the main building has been removed. A huge fragment of masonry, which had formed the south-east corner, has been undermined, and has fallen outwards, where it rests—a solid mass.

The greater part of the enclosing mounds around the Tower have not the character of fortifications. They have more the appearance of cattle enclosures, and were probably formed when the Tower had ceased to be used as a fortress. The heavy mound to the north-west of the Tower appears to be part of the original outer court wall, and a ditch-like line of track or hollow way runs down against this wall from the north-west, turns round the outer angle of the mound, and follows round to the gateway.

About 170 yards north-east from the Tower, on the verge of the slope of the ravine formed by a small stream, there are the foundations of a circular building, about 24 feet in diameter, the under side of which has slidden down the steep bank. These are probably the foundations of a circular tower, placed so as to command the ravine and prevent its being used by enemies as a covered way. Below there are the remains of a roadway of ancient type, ascending from the river below by the sides of the ravine. The line of this is marked on the plan.



Plan showing the old Castle of Thirlestane and the mounds adjacent, with an extended plan of the Castle ruins.



Plan of Thirlestane Convent. Dotted lines at east end show where no actual building remains, only a grass covered mound.

Convent of Thirlestane.

THE ruins of the Convent at Thirlestane, which adjoin the present Thirlestane farm steading, are rather curious. For most part only the foundations remain. Those of the north wall underlie the wall forming the fence of the old line of public road. The only wall remaining of any height is the western gable, which has been the back of a great fireplace. The stones carrying the arch linteling over the front are visible at the north corner, while in the other corner are remains of what seems to have been an oven.

The eastern end of the building is circular in plan, indicating a Norman foundation.

The position of the door can only be guessed at, and only one window can be certainly located. There is no evidence of the position of the division which separated the kitchen part from the eastern end, which, with its apsidal termination, was probably used as a church.

The walls, which have been $2\frac{1}{2}$ feet thick, are without any appearance of buttress. Probably the building was not of great height. The corners have been removed from the remaining parts of the building, and it cannot be known of what material they consisted. If they were freestone, that would account for their being taken away.

The Local and Personal Name of Ewart. By the
REV. CHARLES EWART BUTLER, M.A.

AT the foot of the northern extremity of the Cheviots, and in the immediate vicinity of the conspicuous height known as Yeavinger Bell, occupying a generally level space between the rivers Till and Glen, is situated the township of Ewart, which is practically identical with the estate of Ewart Park, now the property of George Grey Butler, Esq., J.P. There is no village, and it is not known that one ever existed, but only a few scattered houses and cottages, in addition to the mansion belonging to the estate, which is in the parish of Doddington. In a field, however, adjoining the mansion, there are some traces of an ancient burying-ground, and there is a tradition that a church or chapel formerly stood there also. The name, as that of a locality, is not to be found elsewhere in Great Britain, but as a family appellation it is of not infrequent occurrence in the south of Scotland and near the Border.

In the latter connection, various derivations of its origin have been suggested. Referring to the situation of the township between the two rivers, it is stated in Burke's "Landed Gentry" that, "from this circumstance, and as the name was at one time spelt Eworthe, Æwart, and Ewrth, it probably owes its origin to the Saxon words Æw and Worthe, signifying river property or estate."

To this proposition I venture to think there are serious objections. In the first place,—is there a Saxon (or Anglo-Saxon) word *Æw*, signifying “river”? In his “Words and Places” (p. 130), the Rev. Isaac Taylor asserts that “throughout the whole of England there is hardly a single river-name which is not Celtic.” The questionable word suggested seems to bear a phonetic resemblance to the Latin-French *eau*; but that is scarcely likely to have found its way into Northumberland at an early date, especially in composition with the A.S. suffix “worth,”—which means not “property” but an enclosed or protected place.

Before proceeding, it may be useful to quote the chief variations found in the spelling of the name. These, taken chronologically, are as follows:—Ewarde (ad. fin. cent. xii.), Ewurthe (1219), Eworthe (1235), Ewrth (1267), Hewrth (1269), Everth (1289), Ewardeslawe (?=Ewart’s Hill) (1296), Eworth (1336), Ewar (1371), Ewerd (1521), Eward (1603), Eweard (1613), etc. Sir Hugh de Evar (or Eure) is mentioned in 1267; and the great family of that name—variously spelt Evar, Ever, and Eure,—Lords of Kirkley, who held lands in Northumberland until 1613, are said to have taken the name from the manor of Evre or Ivor, near Uxbridge, granted by King John to Robert Fitz Roger, Baron of Warkworth, and also to have received the manor of Eure, in Yorkshire, from Richard I. (1191.)

Among other more or less ingenious derivations offered, the Rev. C. W. Bardsley, in his “Dictionary of Surnames,” gives Ewart, Youart, Ewert, as occupative,=the “ewe-herd”! The application of this designation to a township is not obvious. The same may be said of the derivation given in Ferguson’s “Surnames as a Science” (p. 68) from the A.S. *jû*, O.H.G. *êwa*=“law,” and “ward”=guardian. O.G. Euvart; English—Ewart, Yeoward. These, and others which need not now be quoted, appear to me both far-fetched and improbable.

For reasons presently to be stated, I believe the name to be in fact derived from a Norse or rather Danish origin.

I. In his valuable and interesting work on “Lincolnshire and the Danes,” the Rev. G. Streatfield makes the following observations.

(p. 282.) "*Ewerby*. This name in medieval records is generally found as Iwarby, or Iwardby. There can be little doubt that it represents the great name of Ivar, *i.e.*, Hingvar."

(p. 285.) "*Irby-in-Marsh, Irby-on-Humber*. These names, like Ewerby near Sleaford, and Ivory, in Wrangle, are most probably from the personal name Ivar=Ingvar. So Jurby in the Isle of Man, formerly Ivorby, and Ireby in the Lake district. The descendants of Hingvar, who invaded England with his brother Hubba, were long connected with the Danish arms in England, and doubtless the name was frequent among the Anglo-Danes. It is curious that Irby-on-Humber is situated within a short distance of Humberstone, where Hubba and Hingvar landed. Cf. Irby and Yerby, Yorkshire."

Analogous to the identity of Ewerby and Iwardby, quoted above, may be mentioned "Sewerby," near Bridlington, in Domesday "Siwarby,"="by" or abode of Siward.

Another instance of the same name is found in Heversham, Westmoreland, from the Scandinavian Ivar or Evar. (Ferguson's "Northmen in Cumberland and Westmoreland," p. 132.)

The name Ivar appears variously spelt as Hingvar, Ingvar, Ingwair, Inwer, Iwaer, Iwer, Iward, etc.

II. At a short distance from Ewart, situated on the river Glen, there is a village bearing the Norse name of "Coup-land,"=a trading station: the same name occurs in Copeland Island near the mouth of Belfast Lough. And within a radius of 25 miles, or thereabouts, several other instances of Danish or Norse names are to be found, such as Fenwick, Alnwick, Goswick, Berwick, Cheswick, Howick, Yetholm, Craster, Shilbottle, and perhaps Etal, Howtel, Akeld, Wooler, and others. There is also a traditional Danish camp at Doddington, near Ewart.

III. During the 9th and 10th centuries the Northumbrian coast, from the Humber to the Tweed, was subject to frequent incursions by Danish and Norse invaders. From 867 to 872 Hingwar (Ivar) introduced a numerous Danish colony. In 876 Halfdane, his brother, did the same. In 937 an army of Northmen from Ireland, under Anlaf, son of Sihtric of Northumbria, with Scottish allies under their king, Constantine

III., were defeated by Athelstan and Edmund the Atheling at Brunanburgh, supposed to have been near Ford.

From these considerations I infer that, in all probability, the township was originally a Danish settlement, founded either by Ivar, the second son of Ragnar Lodbrok, or another of that name; and that the surname, at a later date, was borne either by his descendants, or by those of the first settlers. The situation, it may be observed, was admirably adapted for the purpose, being protected from attack on three sides by the rivers, which at that time may have been navigable into the Tweed, and only some ten or twelve miles from the coast, with its adjacent islands—a favourite winter station for the Danish fleets. It does not seem an unreasonable conjecture, in view of the facts that there is not, and does not appear ever to have been a village, and that the estate and township are co-extensive, to suggest that the great Hingwar or Iward may have erected here a fortress or mansion for his own occupation, which in process of time developed into the manorial property of the present day.

Tam o' Philógar. Communicated by MR JAMES SMAIL,
F.S.A. (Scot.)*

A Border Ballad, from the recital of Matthew Gotterson.

TRADITION has now little to relate regarding the infamous Tam o' Philógar, whose character is portrayed in the following ballad. His rieving and cruelty were carried on chiefly along the watershed of the Cheviots, on the upper glens of Roxburghshire and Northumberland. The sparse population in these districts made it comparatively easy to him for a time to carry on his savage exploits. It may be noted that on no part of the Border hills in the olden time were there finer trees than on Philógar. The huge Keil or Keilder Stone stands in a very desolate spot on an eastern slope of the Peel fell, and is on the very edge of Northumberland, and at an elevation of thirteen hundred feet above sea level. In size it is about as large in every way as an ordinary country house of two storeys; and on its somewhat flat top grow blaeberry and cloudberry plants and heather. There is a well-known legend, which Scott and other writers noticed, that if a person walk thrice round the stone against the sun, and then strikes it, he will hear a groan from its interior. On one side of the stone there is a very deep and fairly open rent, into which a person can see distinctly for many feet,

* This originally appeared in *The Scotsman*,

Some years ago the writer visited the stone, and had with him a boy of fourteen belonging to the district. When looking into the deep rent the boy, in his Liddesdale doric, said, "I'se been in there, sir." This seemed impossible, but he immediately went to another side of the stone and pointed out the entrance, a very small hole at the foot of the stone. The writer still looked incredulous, and the boy at once said, "If we had the dirt scrapit away ye could creep in yersel'." He was right. The stone may therefore have been used occasionally as a hiding-place in the marauding days, and the occupant could easily give a groan when any wayfarer struck it. It is therefore possible, if not very probable, that the legend may have arisen from such circumstances as these remarks suggest.

The raid is bitter and ill to bear
 Wi' Tam o' Philógar in the van;
 His deep-laid night wark is mair to fear
 Than a braid day onset, man to man.

Wi' craft o' the fox, a heart o' stane,
 And greed and cruelty rulin' a',
 The harried house and the widow's grane
 Are but to him as the last year's snaw.

On the Liddel heads the sheilings bare
 And cloutless lands o' his onslaughts tell;
 And sorrow hangs i' the vera air
 Where dauntless Wullie o' Singden fell.

And drear and dowie's the Coquet height,
 Where the Brownhart halfins raced and ran;
 A' foully slain i' the dead o' night—
 And Tam o' Philógar was the man.

But grief is quickened to rage at last;
 The ca' for revenge flees far and wide;
 And Tam o' Philógar hears the blast,
 And daurna venture again to ride.

Baith sides o' the Border his misdeeds
 Hae bitterly borne for many a day;
 And now the men o' the waterheads
 Surround Philógar in grim array.

Auld Redlees proved him a leader gude,
And weel the lye o' the strength he knew;
The rush was fierce as a Lammas flude,
And the yetts and doors to finders flew.

The tower was strang, but nane could forget
The cry for revenge, even wilder now;
So walls were scrambled, for bluid was het,
And sune Philógar was a' alowe.

Bauld Redlees munted the turrit stair
Wi' valerous heart, but there was slain;
And close behind him, wi' fiendish glare,
Was Tam o' Philógar prisoner taen.

The trees o' Philógar bear the gree
For length and strength ower the countryside,
And sune on the sturdy hanging-tree
Tam kicks and spurs as if keen to ride.

At close o' the fray his head was taen
Where the weird winds seldom cease to blaw,
And fixed on high on the grit Keil Stane,
The eerie haunt o' the corby craw.

Baith women and men hae rest and peace,
And sleep secure frae gloamin' to morn,
Sin' Tam o' Philógar lost his lease
O' the life that brought him hate and scorn.

Ancient Greek Coin found at Ewart, in Glendale.

(PLATE XXV.)

A MOST unusual discovery of an old Greek coin in northern England was made in September 1901, by Mr G. G. Butler's gardener. He picked it up from amongst some river gravel which had been brought from the bank of the Glen, and deposited in front of the cottages at Ewart Bridge End. This coin was shown by Mr Butler to the members of the Berwickshire Naturalists' Club, when they dined at the Avenue Hotel, Berwick, after the Annual Meeting, on October 17th 1901. It is a bronze coin, fairly well preserved, though worn away at the margin. The accompanying plate contains a photograph of both sides of the coin,* made by Mr Newbiggin, of Alnwick; and there is added a rough sketch, intended partly as a restoration of the design, and partly as a diagram to explain it. On one side is a head of Hiero, the Syracusan monarch, on the other the figure of a trident, without the shaft, a dolphin on either side of it, and a floral device between the prongs. Beneath the trident are the Greek letters ΙΕΡΩΝΟΣ ΑΙΓ (Ieronos Aig), which shows that the coin was issued at Syracuse, of which Hiero was king: the letters ΑΙΓ , as Mr Butler was informed at the British Museum, indicating the magistrate in whose jurisdiction the coin was struck. It is very rarely that a Greek or Sicilian coin (Syracuse having been a Greek colony) has been found in England.

* The diameter magnified to twice the actual size.

ANCIENT GREEK COIN FOUND AT EWART, IN GLENDALE.



FIG. 1.—From a photograph by Mr. Newbigin, of Alnwick. The coin is here magnified to twice its linear dimensions.

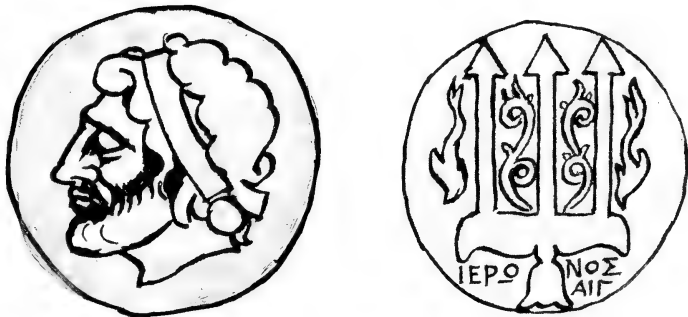


FIG. 2.—From a rough drawing in interpretation of the design.

LEFT HAND: Head of Hiero, King of Syracuse.

RIGHT HAND: A trident, dolphins, and tendrils, and the inscription IEPΩΝΟΣ ΑΙΓ.



If this is a coin of the first Hiero, commonly called Tyrant of Syracuse, it is very old indeed, since the Tyrant began his reign in 478 B.C.; if, as is more probable, it belongs to the time of the second Hiero, descended from the Tyrant's brother Gelon, it dates from the period of his long reign, from 275 to 216 B.C. The trident, it need hardly be observed, was a three-pronged barbed spear, used in early times for spearing fish, in later Roman times as a weapon in gladiatorial fights.

That this coin, of more than 2000 years old, should find its way into the gravel of the river Glen is passing strange. That a coin collector, name unknown, should have dropped it on the shores of the Glen between Akeld and the Till seems even more improbable than that it formed part of a miscellaneous currency, introduced by early Roman invaders of Britain. Even in the latter case it would have been a very ancient coin when it came over in Roman money-bags. If it were part of a hoarded sum of money, to be used only on some exceptional occasion, it would have suffered less wear and tear than a modern penny piece, and so might have survived. At the Coins and Medals department of the British Museum there were shown to Mr Butler several similar coins, but none precisely the same, the initials AIG being peculiar to this piece.

*Meteorological Record for 1902, at Lilburn Tower,
Northumberland.*

Communicated by EDWARD J. COLLINGWOOD, ESQ.

			Mean Temperature.	Mean Height of Barometer.	Rainfall. Inches.
January	...	...	37·88	29·63	0·88
February	...	...	33·33	29·51	1·48
March	...	...	42·72	29·40	1·67
April	...	...	44·03	29·56	1·85
May	...	...	43·16	29·61	4·15
June	...	...	53·68	29·69	2·25
July	...	...	56·51	29·02	1·75
August	...	...	55·14	29·57	1·34
September	...	...	52·30	29·67	1·47
October	...	...	47·27	29·58	1·80
November	...	...	43·01	29·48	1·53
December	...	...	38·48	29·56	2·88

Mean Temperature	...	45·625 degrees.
Mean height of Barometer	...	29·523 inches.
Amount of Rain	...	23·05 inches.

*Note of Rainfall and Temperature at Milstone Hill,
for the year 1902.* By JOHN T. CRAW, ESQ.

		RAINFALL.		TEMPERATURE.	
		Ins.	100ths.	Max.	Min.
January	...	1	00	60	16
February	...	1	10	48	12
March	...	0	70	56	28
April ...	...	1	70	63	29
May ...	...	2	50	75	29
June ...	...	2	00	76	40
July ...	...	1	55	72	37
August	...	1	87	74	39
September	...	0	72	72	37
October	...	1	36	56	32
November	...	1	57	60	28
December	...	2	76	49	26
TOTAL		18	83		

*Note of Rainfall and Temperature at West Foulden,
for the year 1902.*

		RAINFALL.		TEMPERATURE.	
		Ins.	100ths.	Max.	Min.
January	...	1	12	51	17
February	...	1	37	52	11
March	...	0	70	59	27
April	...	1	87	63	30
May	...	2	50	75	29
June	...	2	25	79	41
July	...	1	93	68	35
August	...	1	87	74	39
September	...	0	97	76	36
October	...	1	49	58	32
November	...	1	49	58	30
December	...	3	03	55	26
TOTAL		20	50	79°	11°

(Rainfall for year 23° below average.)

West Foulden is 6 miles from sea; 250 feet above sea-level.

CHART OF RAINFALL.

RAWBURN, height 920ft. Distance from sea, 24 miles (red line). Average of 17 yrs., 1885-1901
WEST FOULDEN, " 250ft. " " 6 " (black line) " 30 " 1873-1902

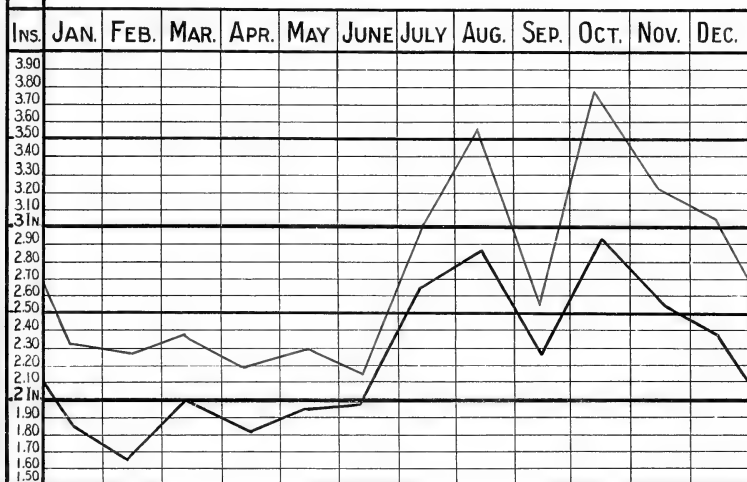
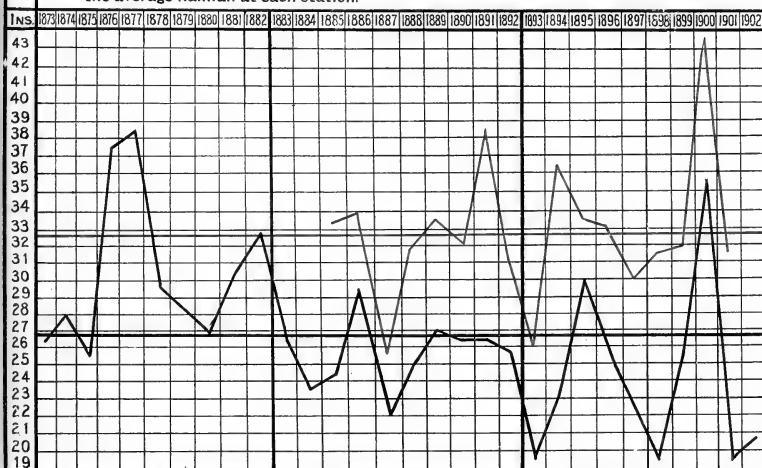


Chart of Total Annual Rainfall on Rawburn (red line) for 17 yrs. (1885-1901), and on West Foulden (black line) for 30 years (1873-1902). The straight lines in red and black show the average Rainfall at each station.



1875

Note from Mr John T. Craw to Mr George Bolam.

21st February 1903.

DEAR SIR,

I herewith send you the Rainfall and Temperature taken at Milstone Hill during the past year. The gauge is a 3" one, out in the open. The thermometer is enclosed in a double louvred box, about 3½ to 4 feet off the ground.

This year, I think, was exceptional for the number of Bullfinches that have come south. I never remember having seen so many before. Mountain Bramblings not so abundant as some years, and I have not seen any Snow Buntings.

This summer I found a Redstart's nest in an old wall in the Ladykirk policies, the only nest I saw this year.

Yours truly,

JOHN T. CRAW.

*Donations to the Club from Scientific Societies, Exchanges,
etc., up to 31st July 1903.*

British Museum, Natural History, Cromwell Road, London.

Guide to the British Mycetozoa, (1895.)

Introduction to the Study of Meteorites; Guide to the Fossil Reptiles and Fishes in the Department of Geology and Palæontology, (1896.)

Introduction to the Study of Minerals; Guide to the Fossil Invertebrates and Plants in the Department of Geology and Palæontology, Part I—Mollusca to Bryozoa, Part II—Insecta to Plants, &c. (1897.)

Guide to the Galleries of Reptiles and Fishes in the Department of Zoology; Introduction to the Study of Rocks; Guide to Sowerby's Models of British Fungi in the Department of Botany, (1898.)

The Students' Index to the Collection of Minerals, (1899.)

A Guide to the Mineral Gallery, (1900.)

General Guide to the British Museum, Natural History, Cromwell Road, London; Guide to the Shell and Starfish Galleries, Department of Zoology, (1901.)

Guide to the Galleries of Mammalia in the Department of Zoology, (1902.)

Instructions for Collectors (nine pamphlets.)

- Cardiff Naturalists' Society, Report and Transactions,
Vols. xxxiv. and xxv.
- Colorado, University of: Studies, Vol. I., Nos. 1—3.
Quarto-Centennial Celebrations.
- Croydon Natural History and Scientific Society, Proceedings
and Transactions, 1901—1902.
- Glasgow, Proceedings of the Philosophical Society of, Vol.
xxxii., 1900—1901; Vol. xxxiii., 1901—1902.
- Liverpool Literary and Philosophical Society, Proceedings,
No. lvi., Session 91, 1901—2.
- Manchester Literary and Philosophical Society—
Memoirs and Proceedings, Vol. xlvi., Parts 1, 3, 4,
1901-2; and Vol. xlvii., Parts 1 to 4, 1902—3.
- Montgomeryshire, Collections Historical and Archæological,
Vol. xxxii., Part 1, March 1901.
- Natural History Transactions of Northumberland and Durham
and Newcastle-upon-Tyne, Vol. xii., Part 2; Vol. xiv.,
Part 1.
- Newcastle-upon-Tyne Society of Antiquaries, Proceedings,
Vol. x., pp. 17—32, 153—164, 181—188, 261—308,
333—344, 355—370. Vol. i. (3rd Series), pp. 1—52.
Archæologia Æliana, Part 60, (Vol. xxv., Part 1.)
- Norfolk and Norwich Naturalists' Society, Vol. vii., Part 3.
- Nova Scotian Institute of Science, Proceedings and Transactions,
Vol. x., Parts 3 and 4.
- Plymouth Institution, Annual Report and Transactions,
Vol. xiii., Part 4, 1901—2.

Royal Physical Society, Proceedings, Session 1900—1901,
Vol. xiv., Part 4; Vol. xv., Part 1, Session 1901—2.

St. Louis, U.S.A. Transactions of the Academy of Sciences
of St. Louis. Vol. xi., Parts 6—11, with Title-page,
Prefatory matter, and Index, year 1901; Vol. xii.,
Parts 1—8.

Upsala University, Geological Institution of: Bulletin, Vol. v.,
Part 2, No. 10.

U.S.A. Department of Agriculture. North American Fauna,
No. 22.

U.S.A. Geological Survey—
Monographs, xli., xlii., xliii.
Annual Report, 22nd, Parts 1—4; and 23rd.
Professional Papers, Nos. 1—8.

General Statement of Account, 1902.

INCOME.

	£	s.	d.	£	s.	d.
Balance in hand from last year	118	0	1			
Arrears received during the year	23	14	0			
Subscriptions	147	0	0			
Entrance Fees	5	10	0			
Back Numbers of Proceedings Sold, etc.	2	2	0			
				£296	6	1

EXPENDITURE.

Balance of Printing Proceedings, 1900	70	10	5			
On Account of do. for 1901	25	0	0			
Postages, Carriages, etc. ..	7	11	5			
Account for Salmon	7	8	2			
Expenses of Meetings, Balance of 1901	4	11	6			
do do for year 1902	14	5	3			
Berwick Museum, Rent of Room, etc.	3	10	0			
Balance at Bank and in hands of Treasurer	163	9	4			
				£296	6	1

Audited and found correct,

GEO. GRAHAME.

9th October 1902.

E R R A T A.

PART I.

Page 75, line 4 from bottom—for “Pride” *read* “pyle.”

Page 76, line 17 from top—for “like” *read* “lytle.”

Page 89, line 13 from top—for “Mr McLaren’s” *read* “Mr James Noble’s.”

Page 95, line 9 from top—for “leaves” *read* “terrors.”

Page 95, last line but one—for “found” *read* “placed.”

Page 96, line 17 from top—for “joygs” *read* “joggs.”

PART II.

Page 212, first column—for “FUNIPERUS” *read* “JUNIPERUS.”

Page 238, line 22 from top—for “Schatts” *read* “Schotts.”

PRESENTED

19 AUG. 1904



BERWICKSHIRE NATURALISTS' CLUB.

LIST OF MEMBERS, 1903.

Those marked with an Asterisk are Ex-Presidents.

Note.—Where A, C, and H occur before the names of Members this indicates

Associate Member.

Corresponding Member.

Honorary Member.

		Date of Admission.
	Adamson, Lawrence William, LL.D., Linden, Morpeth	Dec. 20, 1900
	Aiken, Rev. James Marshall Lang, Ayton ...	Oct. 10, 1888
	Airas, Walter, Oaklee, Galashiels ...	Oct. 9, 1902
	Albe, Herr Johannes, 48 Easter Street, Duns ...	Oct. 10, 1894
	Allan, Andrew L., Riverside Mill, Selkirk ...	Oct. 12, 1892
	Alder, William, Halidon, Berwick ...	Oct. 13, 1880
A	Amory, Andrew, Alnwick	
A	Anderson, Adam, Cumledge Mills, Duns	
	Anderson, Dr Thomas Scott, Lintalee, Jedburgh	Oct. 20, 1884
	Archer, Robert, Solicitor, Alnwick ...	Oct. 9, 1889
	Arkless, Rev. E., Earsdon Vicarage, Newcastle ...	Oct. 14, 1896
	*Askew Robertson, Watson, Ladykirk, Norham ...	Oct. 11, 1860

	Balfour, Charles Barrington, F.S.A. (Scot.), M.P., Newton Don, Kelso	Oct. 8, 1890
	Ballard, George Hartley, Grammar School, Berwick	Oct. 12, 1899
	Barr, John, 46 Main Street, Tweedmouth ...	Oct. 8, 1890
	Batters, Edward A. L., B.A., LL.B., F.L.S., The Laurels, Wörmley, Herts.	Oct. 10, 1883
	Bell, Robert Fitzroy, Advocate, Temple Hall, Cold- ingham	Oct. 12, 1898
	Blair, Robert, F.S.A., Harton Lodge, South Shields	Oct. 12, 1899
	Blanc, Hippolyte J., Architect, F.S.A. (Scot.), A.R.S.A., 25 Rutland Square, Edinburgh	Oct. 10, 1894
	Bolam, John, Bilton House, Lesbury	Sept. 30, 1869
	Bolam, George, Bilton House, Lesbury	Oct. 10, 1888
	Bolam, George, F.Z.S., Berwick	Oct. 15, 1879
	Bolland, Rev. W. E., Embleton Vicarage, Christon Bank, R.S.O.	Oct. 14, 1896
	Bosanquet, Robert Carr, Rock Hall, Alnwick ..	Oct. 12, 1887
	Bosanquet, C. B. Pulleine, Rock Hall, Alnwick ...	Sept. 29, 1859
	Boswell, General J. J., C.B., Darnlee, Melrose ...	Oct. 10, 1888
	Bowhill, James William, 29 St. Andrew's Square, Edinburgh	Oct. 12, 1898
	*Boyd, William B., Faldonside, Melrose ...	Oct. 12, 1853
	Brewis, Nathaniel Thomas, M.D., F.R.C.P.E., 23 Rutland Street, Edinburgh	Oct. 12, 1898
	Broadway, John, Banker, Alnwick	Oct. 13, 1880
H	Brown, Miss Helen M., Longformacus House, Duns	
	Brown, Col. Alex. Murray, Longformacus House, Duns	Oct. 11, 1882
	Brown, J. A. Harvie, Dunipace, Larbert, Stirlingshire	Oct. 13, 1897
	*Brown, T. Craig, Woodburn, Selkirk	Oct. 15, 1879
	Brown, Major Robert, Littlehoughton, Lesbury ...	Sept. 29, 1863
	Brown, Rev. J. Wood, M.A., 16 Corso Regina, Elena, Florence	Oct. 9, 1889
	Bruce, David, Stationmaster, Dunbar	Oct. 11, 1893
	Bruce, Sir Gainsford, one of His Majesty's Judges of the Supreme Court, Gainslaw House, Berwick	Oct. 10, 1894
	Brunton, James, Broomlands, Kelso	Sept. 25, 1868
	Burleigh, Rev. J., Ednam Manse, Kelso	Oct. 11, 1893
	Burman, Charles Clark, M.R.C.S., Alnwick ...	Oct. 8, 1890
	Butler, George G., M.A., F.G.S., Ewart Park, Wooler	Oct. 10, 1894
	Cairns, John, Grey Place, Alnwick	Oct. 9, 1889
	Campbell, John MacNaught, F.Z.S., 6 Franklin Terrace, Glasgow	Oct. 10, 1883
	Campbell Swinton, J. L., Kimmerghame, Duns ...	Oct. 13, 1897
	Carmichael, Robert, Rosybank, Coldstream ...	Oct. 8, 1890
	Carr, Robert, Grindon, Norham-on-Tweed ...	do.

	*Carr Ellison, J. R., Hedgeley, Glanton	Sept. 26, 1872
	Carr Ellison, Col. Ralph H., 1st Royal Dragoons, Hedgeley, Glanton	Oct. 14, 1896
	Carr, Cuthbert Ellison, 1 Collingwood Street, New- castle-on-Tyne	Oct. 11, 1893
	Carr, Rev. Charles Blackett, Longframlington, R.S.O.	Oct. 20, 1884
	Carr, J. Evelyn, Heathery Tops, Berwick ...	Dec. 20, 1900
	Carse, John Thomas, Amble, Acklington ...	Oct. 10, 1888
	Caverhill, John, Jednank, Jedburgh	Oct. 11, 1894
	Christison, Dr David, Secretary of the Society of Antiquaries of Scotland, 20 Magdala Crescent, Edinburgh	Oct. 11, 1893
	Clark, Atkinson George Dixon, Belford Hall ...	Oct. 9, 1889
	Clay, R. H., M.D., Wembury House, Plymstock, So. Devon	May 30, 1861
	Clay, Rev. Patrick Andrew, Ravensdowne, Berwick	Oct. 14, 1891
	Cochrane, John, Willow Bush, Galashiels ...	Oct. 8, 1890
	Cochrane, Walter, Lynhurst, Galashiels ...	Oct. 12, 1899
	Collingwood, John Carnaby, Cornhill House, Cornhill	Oct. 9, 1902
	Cookson, C. Lisle Stirling, Renton House, Grants House	Oct. 20, 1884
	Cooper, Rev. A. E., B.A., St. Peter's, Hooton, Chester	Oct. 12, 1899
	Cowan, Rev. Charles J., B.D., F.S.A. (Scot.), More- battle, Kelso	Oct. 13, 1880
	Craig, William, M.D., C.M., F.R.C.S.E., F.R.S.E., 71 Bruntsfield Place, Edinburgh	Oct. 12, 1881
H	Craig, Mrs M. G., 22 Buccleuch Street, Hawick	
	*Craig Brown [see Brown]	
	Craw, James Hewat, Foulden West Mains, Berwick- on-Tweed	Dec. 20, 1900
	Craw, John Taylor, Whitsome Hill, Chirnside ...	Oct. 9, 1902
	Crawford Francis C., 19 Royal Terrace, Edinburgh	Oct. 9, 1902
	Crawford, William, Solicitor, Duns	Aug. 15, 1862
	Crossman, Lawrence Morley, Cheswick House, Beal	Oct. 9, 1889
H	Culley, Mrs, Broxton House, Keynsham Road, Cheltenham	
	Culley, A. H. Leather, Bamburgh, R.S.O. ...	Dec. 20, 1900
	Culley Rev. Matthew, St. Mary's Whittingham ...	Oct. 10, 1883
	Curle, James, junr., F.S.A. (Scot.), Prior Wood, Melrose	Oct. 11, 1893
	Currie, William, Millbank, Grange Loan, Edinburgh	Oct. 17, 1901
	Daglish, John, Rothley Crag, Cambo	Oct. 11, 1893
	Dand, John T., Warkworth	Oct. 9, 1902
H	Dand, Miss Sarah, 10 Lockharton Terrace, Colinton Road, Edinburgh	
	Darling, Adam, Bondington, Berwick	Oct. 12, 1899
	Darling, Thomas, F.C.S., Adderstone House, Berwick	Oct. 16, 1878

	Darling, Alexander, Governor's House, Berwick-on-Tweed	Dec. 20, 1900
	Davies, Arthur Ellson, M.D., Broom Lodge, Innellan, Argyleshire	Oct. 12, 1898
	Dees, Robert Richardson, Wallsend, Newcastle	Sept. 27, 1876
	Denholm, James, M.D., Meadowfield House, Brandon, Durham	Oct. 31, 1877
	Dent, John, Custom House Chambers, Newcastle	Oct. 9, 1895
H	Dickinson, Miss Margaret R., Norham	
	Dickinson, Robert, Longcroft, Lauder ...	Oct. 10, 1894
	Dickson, Patrick Thorp, Creaghmore, Aberfoyle, N.B.	Oct. 28, 1857
	*Douglas, Sir George Brisbane, Bart., Springwood Park Kelso	Sept. 27, 1876
	*Dudgeon, John Scott, Longnewton Place, St. Boswell's	Sept. 26, 1862
	Dunlop, Archibald Miller, Daer Schoolhouse, by Abington, Lanarkshire	Oct. 13, 1886
	Dunn, Thomas, 5 High Street, Selkirk ...	Oct. 14, 1891
	Dunn, William, Redden, Kelso	Oct. 12, 1898
	Elder, Rev. J. L., East U. F. Manse, Coldstream	Oct. 13, 1897
H	Elliott, Lady, of Stobs, Maines House, Chirnside	Oct. 17, 1901
A	Elliot, John, 2 South Liddle Row, Newcastleton	
	Elliot, Robert Henry, Clifton Park, Kelso ...	Oct. 15, 1879
	Elliot, Stuart Douglas, S.S.C., 40 Princes Street, Edinburgh	Oct. 10, 1894
	Ellis, The Hon. and Rev. William C., Bothalhaugh, Morpeth	Oct. 9, 1895
	*Ellison, [see Carr Ellison]	
	Erskine, Charles, The Priory, Melrose ...	Sept. 29, 1875
	*Evans, Arthur H., M.A., F.Z.S., 9 Harvey Road, Cambridge	Sept. 29, 1875
	Evans, William, F.R.S.E., 38 Morningside Park, Edinburgh	Oct. 13, 1886
	Fairbrother, Rev. James, The Vicarage, Warkworth	Oct. 14, 1896
	Falconer, Allan A., Elder Bank, Duns	Oct. 11, 1894
	*Farquarson, Rev. James, D.D., 47 Mardale Crescent, Edinburgh	June 29, 1865
	Fenwick, Dr John C. J., Embleton Hall, Longframlington, R.S.O.	Oct. 9, 1895
	Ferguson, James, Bailiffgate, Alnwick ...	Oct. 10, 1894
	*Ferguson, John, F.S.A. (Scot.), Solicitor, Duns ...	Sept. 27, 1876
	Fergusson, Sir James Ranken, Bart., Spitalhaugh, Peebles	Oct. 17, 1901
	Findlay, Rev. John Agnew, M.A., 7 Inverleith Terrace, Edinburgh	Oct. 10, 1894

	Fleming, Rev. Hugh, Mordington, Berwick ...	Oct. 9, 1895
	Forbes, J. A., Captain R.N., West Coates, Berwick	Sept. 29, 1875
	Ford, John, Royal Bank of Scotland, Duns ...	Oct. 12, 1892
	Fortune, George, Kilmeny, Duns ...	Oct. 12, 1887
	Fraser, Rev. D. Denholm, Sprouston Manse, Kelso	Oct. 9, 1902
	Friar, John Edmond, Greenlaw Walls, Norham-on-Tweed ...	June 25, 1863
	Gayner, Francis, 20 Queen Square, London, W.C.	Oct. 14, 1896
	Gibb, Robert Shirra, M.B.C.M., Boon, Lauder ...	Oct. 10, 1883
	Giles, Arthur, F.R.S.G.S., 107 Princes Street, Edinburgh ...	Oct. 13, 1897
C	Goodchild, J. G., F.G.S., H.M. Geological Survey (Scot.), Museum of Science and Art, Edinburgh	
	Graham, Rev. M. H. N., Maxton Manse, St. Boswell's	Aug. 30, 1866
	Graham, Thomas, Sunnysbank, Alnwick ...	Oct. 14, 1890
	Grahame, George, Berwick-on-Tweed ...	Oct. 17, 1901
	Grahame, Thomas, The Avenue, Berwick ...	Oct. 12, 1899
	Gray-Smith, Rev. W. H., Fogo, Duns ...	Oct. 13, 1897
	Green, Rev. Charles E., B.A., Chulmleigh, Exeter, Devon ...	Oct. 31, 1877
	Greenwell, Rev. Canon, M.A., D.C.L., F.R.S., F.S.A., Hon. F.S.A. (Scot.), 27 North Bailey, Durham	July 25, 1861
	Gregson, Delaval Knight, The Avenue, Berwick	Oct. 20, 1884
	Greig, James Lewis, Advocate, Eccles House, Kelso	Oct. 12, 1898
	Greig, Thomas, Wester Wooden, Roxburgh ...	Oct. 10, 1883
	Grey, Right Honourable Sir Edward, Bart., M.P., Fallodon, Chathill ...	Oct. 10, 1888
	Grey, John, Manor House, Broomhill, Acklington	Oct. 12, 1899
H	Grey, Mrs. Lorbottle, Whittingham	
	Guthrie, William Grant, 6 Lockhart Place, Hawick	Oct. 13, 1886
	Haddington, The Right Honourable The Earl of, Tynninghame House, Prestonkirk ...	Oct. 31, 1877
	Hall, William Thompson, Troughend, Woodburn	Oct. 12, 1881
	Halliday, John, 5 Holland Park, London, W. ...	Sept. 29, 1875
	Hardy, George, Oldcambus East Mains, Cockburnspath	Oct. 10, 1894
H	Hardy, Mrs. Eden House, Gavinton, Duns	
	Hay, Dr H., 19 Nelson Street, Edinburgh ...	Oct. 9, 1902
	Hay, Francis Stewart, Duns Castle, Duns ...	Oct. 17, 1901
H	Hay, Mrs. Duns Castle, Duns ...	Oct. 9, 1902
	Hay, Robert Mordaunt, 5 Cumberland Place, Southampton ...	Oct. 14, 1896
	Heatley, W. R., 4 Linden Villas, Gosforth ...	Oct. 9, 1895
	Hepburn, Sir Archibald Buchan, Bart., Smeaton-Hepburn, Prestonkirk ...	Sept. 27, 1876

	Henderson, George, Upper Keith, East Lothian	Oct. 20, 1884
	Herriot, David, Sanson Seal, Berwick	Oct. 20, 1884
	Heslop, Richard Oliver, M.A., F.S.A., 12 Akenside Hill, Quayside, Newcastle-on-Tyne ...	Oct. 8, 1890
	Hindmarsh, Thomas Chas., Barrister-at-Law, 1 Essex Court, Temple, London	Oct. 31, 1877
	Hindmarsh, William Robson, South Lodge, Alnwick	Oct. 12, 1898
	*Hindmarsh, W. T., F.L.S., Alnbank, Alnwick ...	Sept. 26, 1872
	Hilson, James Lindsay, Kenmore Bank, Jedburgh	Oct. 14, 1896
	Hilson, Provost Oliver, J.P., Lady's Yard, Jedburgh	Oct. 10, 1894
	Hodgkin, Thos., D.C.L., LL.D., Barmoor Castle, Beal	Oct. 9, 1902
	Hodgson, John Crawford, Abbey Cottage, Alnwick	Oct. 13, 1880
	Home, The Right Honourable the Earl of, The Hirsell, Coldstream	Oct. 11, 1882
	Hood, James, Linnhead, Cockburnspath ...	Oct. 8, 1890
H	Hood, Miss Jean, Linnhead, Cockburnspath	
	Hope, Colonel Charles, Cowdenknowes, Earlstoun	Oct. 10, 1894
	Huggup, Robert, 66 Queen's Road, Newcastle-on-Tyne	Oct. 8, 1890
	Hughes, Dr Pringle, Firwood, Wooler ...	Sept. 30, 1870
	*Hughes, George P., Middleton Hall, Wooler ...	Oct. 20, 1856
	Hume, David, Thornton, Berwick	Oct. 11, 1893
	Hunter, Rev. David, D.D., The Manse, Galashiels	do.
	Hunter, Major James, Anton's Hill, Coldstream	Sept. 27, 1876
	Hunter John, M.A., 17 Hollins Road, Harrogate	Oct. 20, 1884
	Hunter, Rev. Joseph, M.A., F.S.A. (Scot.), Cockburns-path	Sept. 29, 1875
	Inglis, Rev. R. C., Berwick-on-Tweed	Oct. 13, 1897
	James, Captain Fullarton, Stobhill, Morpeth ...	Oct. 17, 1901
	Johnson, Edward, M.D., 6° Bickenhall Mansions, Gloucester Place, London, W.	Oct. 12, 1881
	Johnson, W. H., Tweed Villa, Relugas Road, Edinburgh	Oct. 31, 1877
	Johnston, Rev. John, B.D., Eceles, Kelso ...	Oct. 10, 1894
	Johnstone, John Carlyle, M.D., The Hermitage, Melrose	Oct. 12, 1899
	Joicey, Sir James, Bart., M.P., Longhirst Hall, Morpeth	Oct. 12, 1887
	Jones, Rev. Ambrose, M.A., Staunington, Cramlington	Sept. 26, 1871
	King, W. Y., M.A., H.M. Inspector of Schools, 3 Correnvie Drive, Edinburgh	Oct. 9, 1889
	Laidlaw, James, Allars Mill, Jedburgh ...	Oct. 12, 1892
A	Laidlaw, Walter, Abbey Cottage, Jedburgh	
	Lamont, Rev. H. M., Coldingham, Reston ...	Oct. 17, 1901
H	Langlands, Miss, 4 Strathearn Place, Edinburgh	

	Leadbetter, Hugh Macpherson, Legerwood, Earlston	Oct. 10, 1888
	Leather, Major Gerard F. Towler, Middleton Hall, Belford	Oct. 9, 1889
	Leather-Culley [see Culley]	
	Leishman, Rev. James F., M.A., Linton, Kelso	Oct. 9, 1895
	*Leishman, Rev. Thomas, D.D., F.S.A. (Scot.), 4 Douglas Crescent, Edinburgh	Oct. 20, 1856
	Leitch, David, Greenlaw	Oct. 14, 1885
	Leyland, C. J., Haggerston Castle, Beal	Oct. 10, 1894
	Little, William, National Bank of Scotland, Galashiels	Oct. 8, 1890
	Lockhart, Capt. William Elliott, Cleghorn, Lanark, N.B.	Sept. 27, 1876
H	Low, Miss Alice, The Laws, Edrom	
	Lynn, Francis, F.S.A. (Scot.), Livingstone Terrace, Galashiels	Oct. 10, 1894
	Macdonald, Rev. D. D. F., Swinton, Duns	Oct. 9, 1902
	Mackay, Dr W. B., Berwick	Oct. 9, 1902
	Mackey, Matthew, 36 Highbury, West Jesmond, New- castle	Oct. 10, 1888
	Macpherson, Major James F., Caledonian United Service Club, Edinburgh	Sept. 25, 1868
	Maddan, William, British Linen Co's. Bank, Berwick	Oct. 12, 1881
	Main, Alexander James, M.D., Thornbrae, Alnwick	Sept. 26, 1870
	Maitland, Hon. and Rev. Sydney George William, Thirlstane Castle, Lauder	Oct. 14, 1891
	Marchant, W., Weston Bank, Shiffnal	Oct. 9, 1902
	Marr, James, M.B.C.M., Ivy Lodge, Greenlaw, Ber- wickshire	Oct. 12, 1898
	Martin, Rev. Thomas, M.A., Lauder	Oct. 13, 1886
	Mathison, Thomas, Wandylaw, Chathill	Oct. 10, 1888
	Maxwell, Major Wm. Hy., Stopford Heron, Muirhouse- law, Maxton, St. Boswells	Oct. 11, 1899
	McCreath, H. G., Galagate, Norham	Oct. 14, 1891
	McDonall, Rev. Patrick George, M.A., Oxford House, Clarence Parade, Southsea	Oct. 10, 1861
	McDougal, Alexander Nisbet, Solicitor, Duns	Oct. 10, 1894
	McDowall, T. W., M.D., F.S.A. (Scot.), County Asylum, Cottingwood, Morpeth	Sept. 29, 1875
	McNee, George Fraser, 16 Chambers Street, Edin- burgh	Oct. 12, 1899
	McVie, Samuel, M.B., Chirnside	Oct. 14, 1896
	Mein, James A. W., Hunthill, Jedburgh	Oct. 15, 1879
	Mercer, Ebenezer Beattie, Manufacturer, Stow	Oct. 12, 1899
	*Middlemas, Robert, Solicitor, Alnwick	June 25, 1863
H	Middlemas, Mrs Robert, Alnwick	
	Middlemas, Robert, junr., Bailiffgate, Alnwick	Oct. 12, 1898

	Middleton, Rev. Charles J. More, M.A., Crailing Manse, Jedburgh	Oct. 10, 1894
	Millar, James, Solicitor, Duns	Oct. 12, 1899
	Miller, A. L., Castlegate, Berwick	Oct. 12, 1881
	Milliken, Wm., Swinhoe, Chathill	Dec. 20, 1900
	Milne-Home, Captain David William, Caldra, Duns	Oct. 12, 1898
H	Milne-Home, Miss Georgina S., Milne Graden, Cold- stream	
H	Milne-Home, Miss Jean Mary, Caldra, Duns	
	Milne-Home, John Hepburn, 38 Beaumont Street, Kelso	do.
	Milne, Rev. James A., Lyne Manse, Stobo	Oct. 9, 1902
	Mitchell, James, 220 Darnley Street, Pollokshields, Glasgow	Dec. 20, 1900
	Moore, C. E., Beaconsfield Terrace, Alnwick	do.
	Morton, Benjamin, 18 St. George's Square, Sunderland	Oct. 12, 1887
	Muckle, Robert, Manor House, Tynemouth	Oct. 9, 1895
	Muirhead, George, F.R.S.E., F.Z.S., F.S.A. (Scot.), Speybank, Fochabers, N.B.	Sept. 24, 1874
	Napier, George G., M.A., Orchard, West Kilbride	Oct. 17, 1901
	Newbigin, James Leslie, Alnwick	Oct. 12, 1881
	Nisbet, George, Rumbleton, Greenlaw	Oct. 9, 1895
	Nisbet, James, Lambden, Greenlaw	Oct. 10, 1883
	*Norman, F. M., Commander R.N., Cheviot House, Berwick	Sept. 24, 1874
	Northumberland, His Grace the Duke of, K.G., Alnwick Castle	Oct. 9, 1889
	Oliver, Joseph, Eslington Park, Whittingham, R.S.O.	Oct. 20, 1884
	Paton, Henry, M.A., 120 Polwarth Terrace, Edinburgh	Oct. 13, 1897
	Paton, Lieut.-Col. James, Crailing, Jedburgh	Sept. 26, 1872
	*Paul, Rev. David, LL.D., 53 Fountainhall Road, Edinburgh	Sept. 30, 1870
H	Paul, Mrs, 53 Fountainhall Road, Edinburgh	
	Paulin, Thomas, Albion Brewery, Mile End, London	Dec. 20, 1900
	Paynter, Henry A., Freeland, Alnwick	Sept. 26, 1872
	Percy, Charles, Clifton House, Alnwick	Oct. 20, 1884
	Phillips, Maberley, F.S.A., Pevensy, Enfield	Oct. 11, 1893
	Phillipson, Sir George Hare, M.D., D.C.L., M.A., 7 Eldon Square, Newcastle	Oct. 20, 1884
	Pigg, George, Thornhill, Alnwick	Oct. 11, 1893
	Plummer, Charles H. Scott, Sunderland Hall, Selkirk	Oct. 12, 1892
	Porteous, Rev. Thomas, B.D., 7 Hart Street, Edinburgh	Oct. 10, 1894
	Purvis, Charles E., Westacres, Alnwick	Oct. 9, 1895

	Rankin, George, W.S., Lauder	...	...	Oct. 12, 1899
	Redpath, Robert, <i>Journal Office</i> , Newcastle	...	...	Oct. 9, 1889
	Renton, Robert Charles Campbell, Mordington, Berwick	...	...	Oct. 12, 1899
	Reid, Rev. John, M.A., Foulton, Berwick	...	...	Oct. 14, 1896
	Richardson, John, Little Mill, Lesbury, R.S.O.	...	...	Oct. 12, 1898
	Richardson, Ralph, F.R.S.E., F.S.A. (Scot.), 2 Parliament Square, Edinburgh	...	...	Oct. 12, 1892
	Riddle, Andrew, Yeaverling, Kirknewton	...	...	Oct. 12, 1898
	Ridley, Sir Edward, 48 Lennox Gardens, London, S.W.	...	...	Sept. 27, 1876
	Robert, Rev. Edward, St. Mary's, Alnwick	...	...	Oct. 8, 1890
	Roberts, Alexander F., Thornfield, Selkirk	...	...	Oct. 20, 1884
	*Robertson, Watson Askew [see Askew Robertson]			
	Robertson, William, Alnmouth	...	...	Oct. 10, 1883
	Robinson, William John, New Moor Hall, Morpeth	...	...	Oct. 10, 1888
	Romanes, Charles S., C.A., 3 Abbotsford Crescent, Edinburgh	...	...	Oct. 20, 1884
	Romanes, James, Harewood Glen, Selkirk	...	...	Oct. 12, 1899
H	Russell, Miss, Ashiestiel, Galashiels			
	Rutherford, F. Elliott, 1 Oliver Place, Hawick	...	...	Oct. 12, 1887
	Rutherford, Henry, Fairnington Crags, Roxburgh	...	...	Oct. 10, 1883
	Rutter, Rev. Evan, M.A., Spittal, Berwick	...	...	Sept. 25, 1873
	Sanderson, Richard Burdon, Waren House, Belford	...	...	Oct. 10, 1883
	Sanderson, Stephen, The Elms, Berwick	...	...	June 28, 1859
	Scott, Adam Pringle, Banker, Amble	...	...	Oct. 13, 1897
	Scott, Gideon T., Selkirk	...	...	Oct. 12, 1892
	Scott, John C., Synton, Hawick	...	...	Oct. 12, 1892
	Sharpe, Rev. J., Heatherlie, Selkirk	...	...	Oct. 11, 1893
	Shaw, Robert Hogg, Wester Park, Coldstream	...	...	Oct. 12, 1892
A	Shaw, William, 3 Livingstone Place, Galashiels			
	Short, T. B., Ravensdowne, Berwick	...	...	Oct. 10, 1888
	Simpson, David G., F.R.A.S., 199 Camberwell Grove, Denmark Hill, London	...	...	Oct. 10, 1894
H	Simpson, Miss, 15 Inverleith Row, Edinburgh			
	Simpson, Rev. Macduff, M.A., Edrom, Duns	...	...	Oct. 12, 1887
	Simpson, Richard H., Ravensmede, Alnwick	...	...	Oct. 13, 1897
	Simson, Thomas, Commercial Bank, Jedburgh	...	...	Oct. 12, 1887
	Smail, Elliot Redford, 7 Bruntsfield Crescent, Edinburgh	...	...	Oct. 12, 1899
	*Smail, James, F.S.A. (Scot.), 7 Bruntsfield Crescent, Edinburgh	...	...	July 26, 1866
	Small, Alexander Murison, W.S., Collingwood, Melrose	...	...	Oct. 17, 1901
	Small, Rev. Robert, Caddonfoot, Galashiels	...	...	Oct. 15, 1879
	Smeall, James, Castlewood, Jedburgh	...	...	Oct. 9, 1902
	Smith, Andrew, Whitechester, Duns	...	...	Dec. 20, 1900

LIST OF MEMBERS

	Smith, J. R. C., Mowhaugh, Yetholm	Oct. 8, 1890
	Smith, Patrick, Sheriff Substitute for Selkirkshire, The Firs, Selkirk	Oct. 9, 1902
	Smith, R. Addison, S.S.C., 19 Heriot Row, Edinburgh	Oct. 12, 1892
	Smith, R. Colley, Ormiston House, Roxburgh ...	do.
	Smith, T. D. Crichton, Solicitor, Forestfield, Kelso	Oct. 12, 1881
	Smith, Gray [see Gray Smith]	
	Somervail, James Alexander, Hoselaw, Kelso ...	Oct. 13, 1897
H	Spoor, Mrs, 9 Lonsdale Road, Scarborough	
	Sprot, Lieut.-General John, Riddell, Lilliesleaf ...	Oct. 20, 1884
	Sprott, Rev. George W., D.D., North Berwick ...	Sept. 27, 1876
	Steadman, William Charles, Solicitor, Abbey Green, Jedburgh	Oct. 14, 1896
	Steel, William Strang, Philiphaugh, Selkirk ...	Oct. 12, 1892
	Steel, Rev. James, D.D., Heworth Vicarage, Newcastle	Oct. 9, 1889
	Steele, William, F.S.A. (Scot.), Inland Revenue Office, Kelso	Oct. 8, 1890
	Stephenson, Robert, Chapel, Duns	Oct. 11, 1882
	Steven, Alexander, Stecarven, Berwick	Oct. 14, 1896
	Stevenson, James, Architect, Berwick	Oct. 10, 1888
	Stevenson, James, junr., Architect, Berwick ...	Oct. 9, 1895
	Storey, Ralph Storey, Beanley, Alnwick	Oct. 14, 1891
	Swan, William Bertram, Auctioneer, Duns	Oct. 13, 1897
	Sym, Rev. Arthur Pollok, B.D., Lilliesleaf ...	Oct. 9, 1895
	Swinton [see Campbell Swinton]	
	Tancred, George, Weens House, Hawick	Oct. 13, 1886
	Tait, David W. B., W.S., Edenside, Kelso	Oct. 20, 1884
	Tait, James, Estate Office, Belford	Oct. 31, 1877
	Tate, George, Brotherwick, Warkworth	Oct. 9, 1889
	Tate, John, Oaklands, Alnwick	July 31, 1862
	Tate, Thomas, Allerburn, Alnwick	July 26, 1863
	Tennant, Edward P., The Glen, Innerleithen ...	Oct. 12, 1881
	Thew, Arthur H., 11 Bewick Road, Gateshead ...	Oct. 16, 1878
	Thew, Edward, Birling Manor, Warkworth	Oct. 12, 1887
	Thin, James, 54 South Bridge, Edinburgh	Oct. 10, 1883
	Thin, John, Ferniehirst, Stow	Oct. 10, 1894
	Thompson, Andrew, Glanton	Oct. 9, 1889
	Thomson, Andrew, F.S.A. (Scot.), Schoolhouse, Glendinning Terrace, Galashiels	Dec. 20, 1900
	Thompson, George H., Alnwick	Oct. 31, 1877
	Thomson, James, Shawdon Cottage, Redcar ...	Oct. 10, 1883
	Thorpe, Thomas Alder, Narrowgate House, Alnwick	Oct. 8, 1890
	Tristram, Rev. Canon, D.D., F.R.S., F.S.A., Durham	Oct. 15, 1879
	Turnbull, George G., 58 Frederick Street, Edinburgh	Oct. 11, 1893
	Turnbull, John, Royal Bank, Galashiels	Oct. 10, 1894

	Tweeddale, The Most Honourable the Marquess of, Yester House, Gifford	Oct. 12, 1881
	Tweedmouth, Right Hon. Lord, Guisachan, Beauley, N.B.	Oct. 12, 1887
	Veitch, David, Market Place, Duns	Oct. 12, 1895
	Veitch, George, Leicester House, Jervis Road, Bourne- mouth	Oct. 9, 1889
	Veitch, James, Inchbonny, Jedburgh	Oct. 12, 1899
	Voelcker, John A., B.A., Ph.D., B.Sc., F.L.S., F.C.S., F.I.C., 20 Upper Phillimore Gardens, Ken- sington, W.	Oct. 9, 1895
	Waite, William Home, Duns	Oct. 11, 1893
	*Walker, Rev. Canon, M.A., Whalton Rectory, Newcastle	Oct. 16, 1878
H	Warrender, Miss Margaret, Bruntisfield House, Edin- burgh	
	Watson, Dr, Whittingham, Alnwick	Oct. 14, 1891
	Wagh, Andrew, High Street, Hawick	Oct. 13, 1886
	Wearing, Henry, 28 Rowallan Gardens, Partick, Glasgow	Oct. 14, 1896
	Weatherhead, J. K., Solicitor, Berwick	Oct. 16, 1878
	Weatherhead, William, Solicitor, Berwick	Sept. 26, 1871
	Weddell, Robert, Solicitor, Berwick	Oct. 13, 1880
	Weir, R. S., 31 Linskill Terrace, North Shields ...	Oct. 14, 1891
	Welford, Richard, Gosforth, Newcastle	Oct. 9, 1889
	Weston, Walter, Inland Revenue Office, Alnwick	Oct. 9, 1895
	Whitley, Andrew, Commercial Bank of Scotland, 62 Lombard Street, London	Oct. 12, 1899
	Widdrington, Major Shallcross Fitzherbert, Newton Hall, Felton	Oct. 13, 1880
	Wilkin, Henry George, Alnwick	Oct. 8, 1890
	Willoby, Edward, Berwick	Oct. 12, 1881
	Williams, Humphrey John, Barndale, Alnwick	Oct. 12, 1898
	Wilsden, Rev. Canon J. S., The Vicarage, Wooler	Oct. 12, 1887
	Wilson, Rev. Beverley S., Brantingham Vicarage, Brough, Yorkshire	Sept. 24, 1874
	Wilson, Edward J., Schoolhouse, Abbey St. Bathans	Oct. 13, 1897
	Wilson, John, Chapel Hill, 26 Lauder Road, Edinburgh	Oct. 11, 1893
	Wilson, Joseph, Solicitor, Duns	Oct. 12, 1881
H	Wood, Mrs, Woodburn, Galashiels	
	Workman, Rev. William, Stow	Oct. 12, 1887
	Wright, J., Bank of Scotland, Duns	Oct. 11, 1894
	Young, William, St. Leonard's, Berwick	Oct. 9, 1889

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